

TC-630

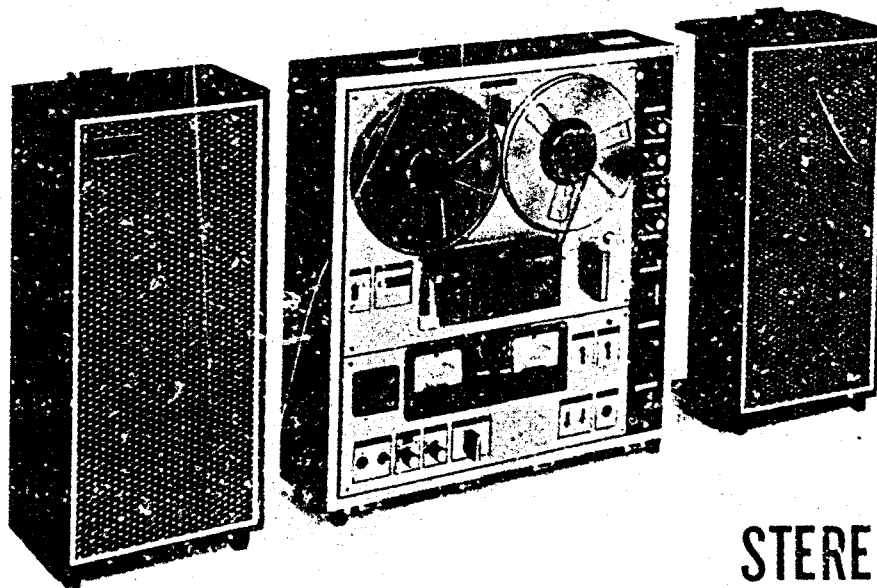
Canadian Model

E Model

US Model

AEP Model

UK Model



STEREO TAPECORDER

SPECIFICATIONS

Power Requirements:	85W (100 VA), 117 volts (USA, Canada Model) 85W, 100, 110, 117, 125, 220 & 240 volts (E, AEP, UK Model) (Voltage selector provided in the set) AC 60Hz (USA, Canada Model) AC 50 or 60 Hz (E, AEP, UK Model) (Convertible with power frequency selector and capstan sleeve)	Outputs:	Line outputs: 0 dB (0.775V), Load impedance 100k Ω Speaker outputs (for external): Load impedance 8 Ω Speaker outputs (for lid): Load impedance 16 Ω Headphone outputs (for monitoring): Load impedance 8 Ω Headphone outputs (for listening): Load impedance 8 Ω
Tape Speeds:	19 cm/s, 9.5 cm/s and 4.8 cm/s 7 $\frac{1}{2}$ ips, 3 $\frac{3}{4}$ ips and 1 $\frac{7}{8}$ ips	Recording Time:	4-track stereo 1.5 hrs at 19cm/s, 7 $\frac{1}{2}$ ips 3 hrs at 9.5cm/s, 3 $\frac{3}{4}$ ips 6 hrs at 4.8cm/s, 1 $\frac{7}{8}$ ips
Reel Size:	7 inches or smaller		4-track mono 3 hrs at 19cm/s, 7 $\frac{1}{2}$ ips 6 hrs at 9.5cm/s, 3 $\frac{3}{4}$ ips 12 hrs at 4.8cm/s, 1 $\frac{7}{8}$ ips
Track System:	4-track stereophonic or monophonic	Semiconductors:	Transistor: 40 pcs. Diode: 7 pcs.
Frequency Response: (NAB)	30~22,000 Hz at 19cm/s, 7 $\frac{1}{2}$ ips 30 ~ 13,000 Hz at 9.5cm/s, 3 $\frac{3}{4}$ ips 30 ~ 10,000 Hz at 4.8cm/s, 1 $\frac{7}{8}$ ips	Heads:	Record: PP 30-2902A PP 102-2902 (Serial No. 124701 and later) Playback: RP30-2902 RP102-2902 (Serial No. 124701 and later) Erase: EF18-2902A
Wow and Flutter: (NAB)	Less than 0.09% at 19cm/s, 7 $\frac{1}{2}$ ips Less than 0.12% at 9.5cm/s, 3 $\frac{3}{4}$ ips Less than 0.16% at 4.8cm/s, 1 $\frac{7}{8}$ ips	Dimensions:	454(w) x 506 (h) x 294 (d) mm 17 $\frac{7}{8}$ (w) x 20 (h) x 11 $\frac{5}{8}$ (d) inches
Power Output:	15W (maximum) per channel 40W (dynamic power) with both channels	Weight:	21 kg, 46 lb 3 oz
Signal-to-Noise Ratio	Better than 50 dB		
Harmonic Distortion:	Less than 1.2% (at normal recording level) Less than 0.5% (in working as an amplifier)		
Recording Level Indication:	Two VU meters		
Tone Controls:	Two separate controls for bass and treble		
Inputs:	Low impedance microphone inputs: -72 dB (0.2 mV) High impedance auxiliary inputs: -22 dB (0.06V) High impedance tuner inputs: -22 dB (0.06V) Phonograph inputs: -52 dB (2 mV)		

SONY

SERVICE MANUAL

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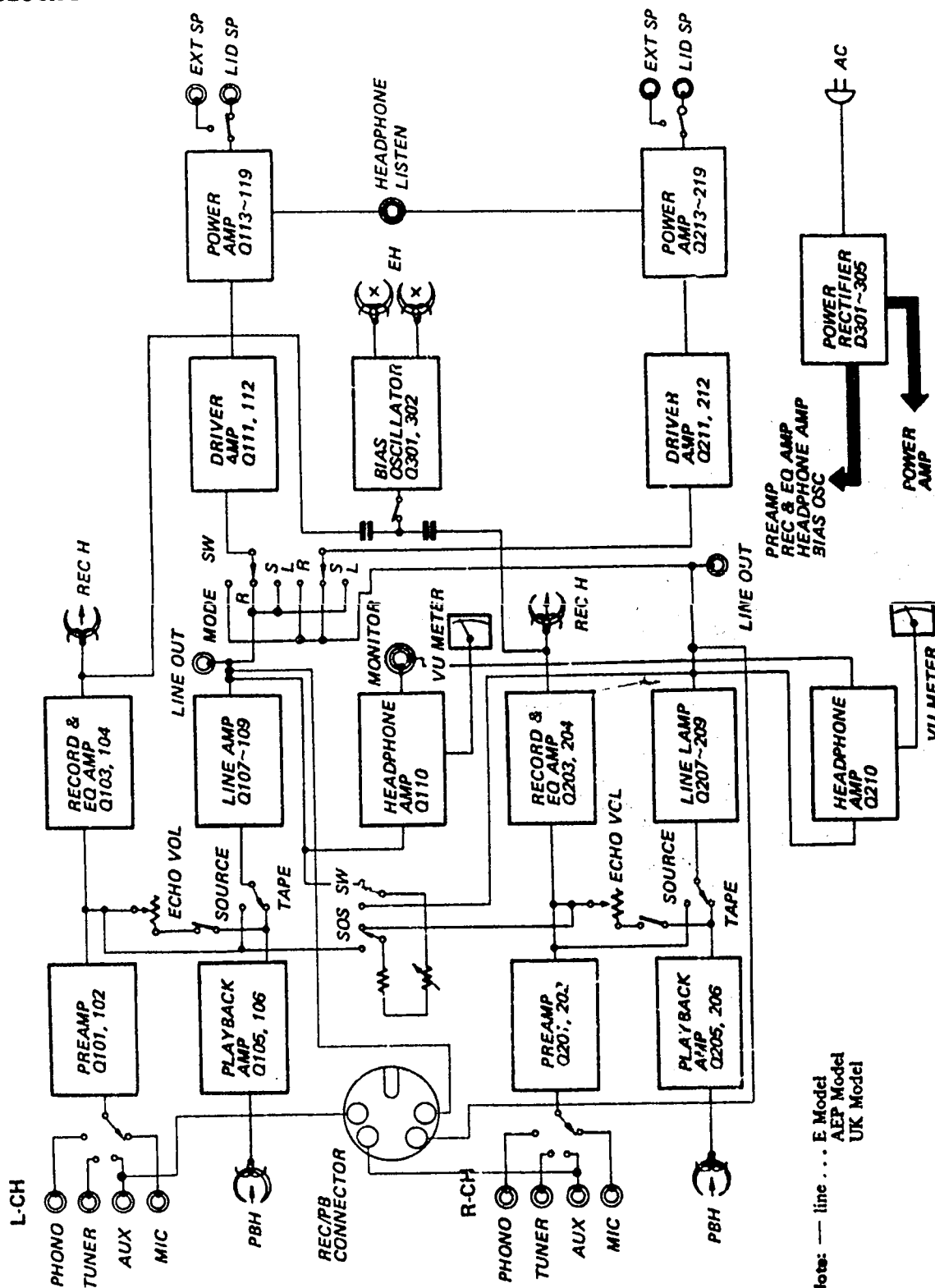
*When ordering replacement parts, use PART NUMBERS listed in Parts Lists or shown in EXPLODED VIEWS.
Parts List reference numbers should not be used.*

All screws in this service manual are Phillips type (cross recess type) unless otherwise indicated.

(-) : slotted head

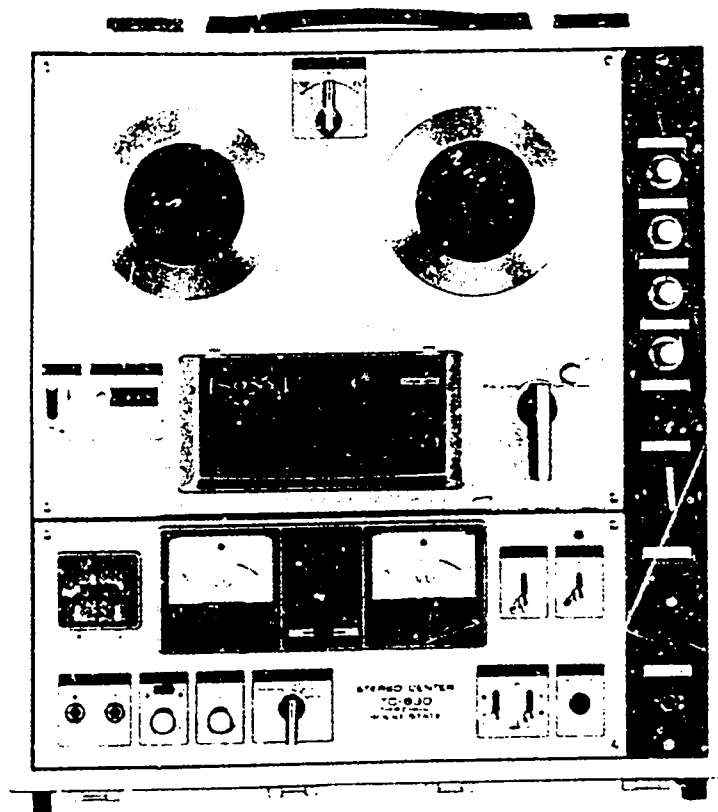
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

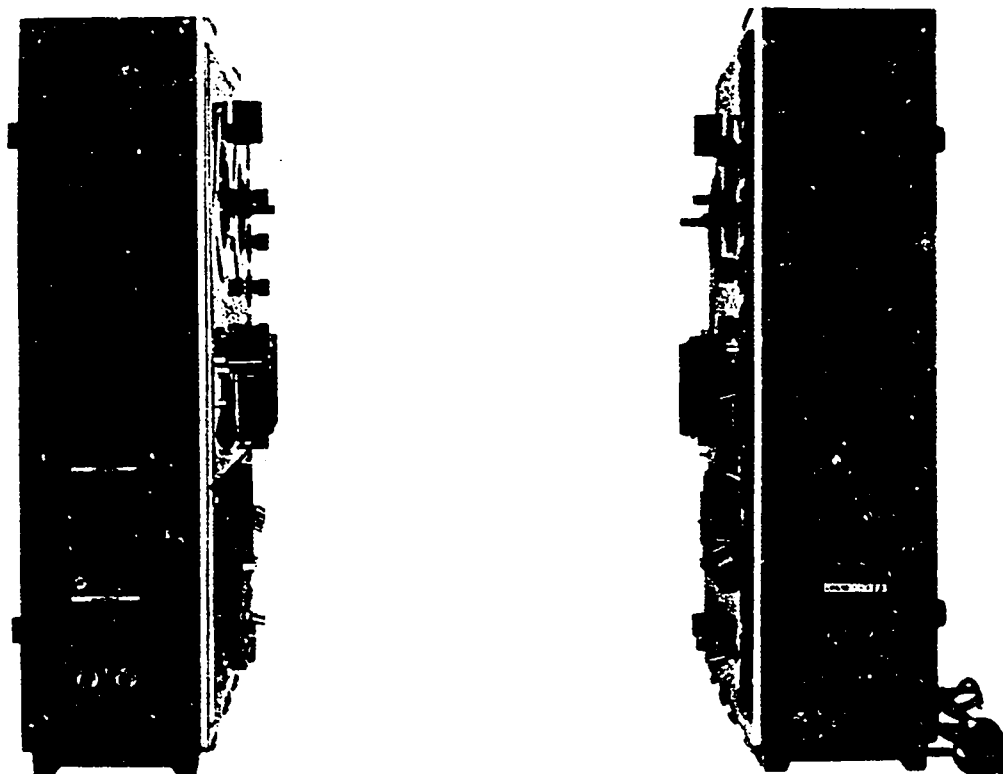


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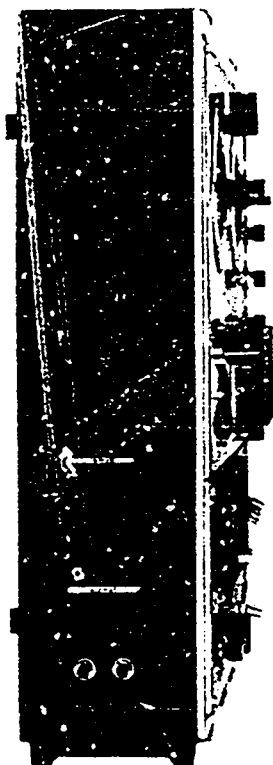
1-2 CABINET TOP VIEW



1-3. CABINET SIDE VIEWS (AEP, UK)



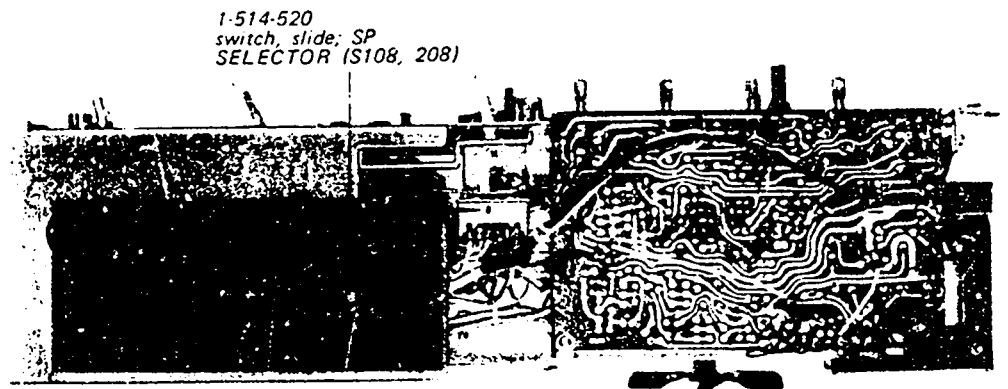
1 4. CABINET SIDE VIEWS (USA, Canada)



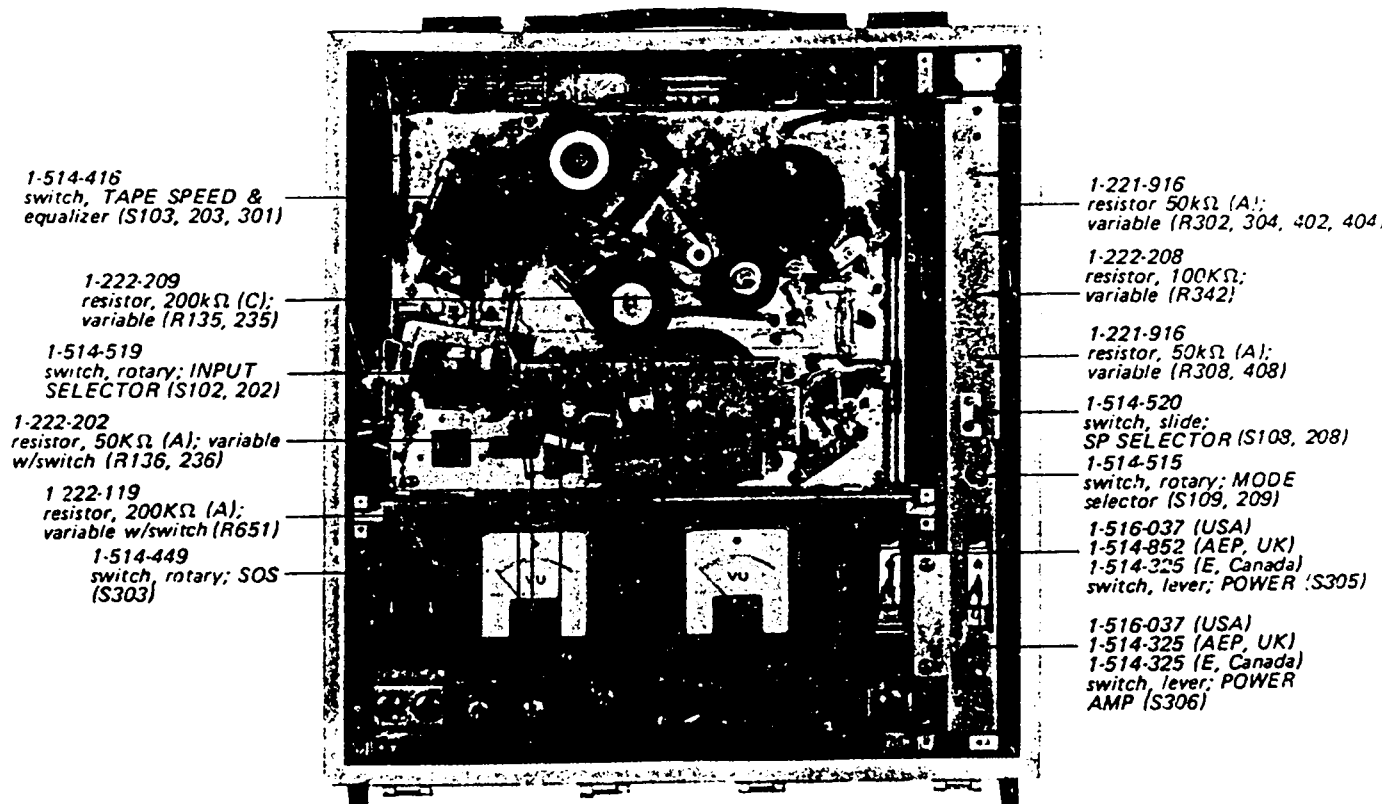
1-5. CABINET SIDE VIEWS (E)



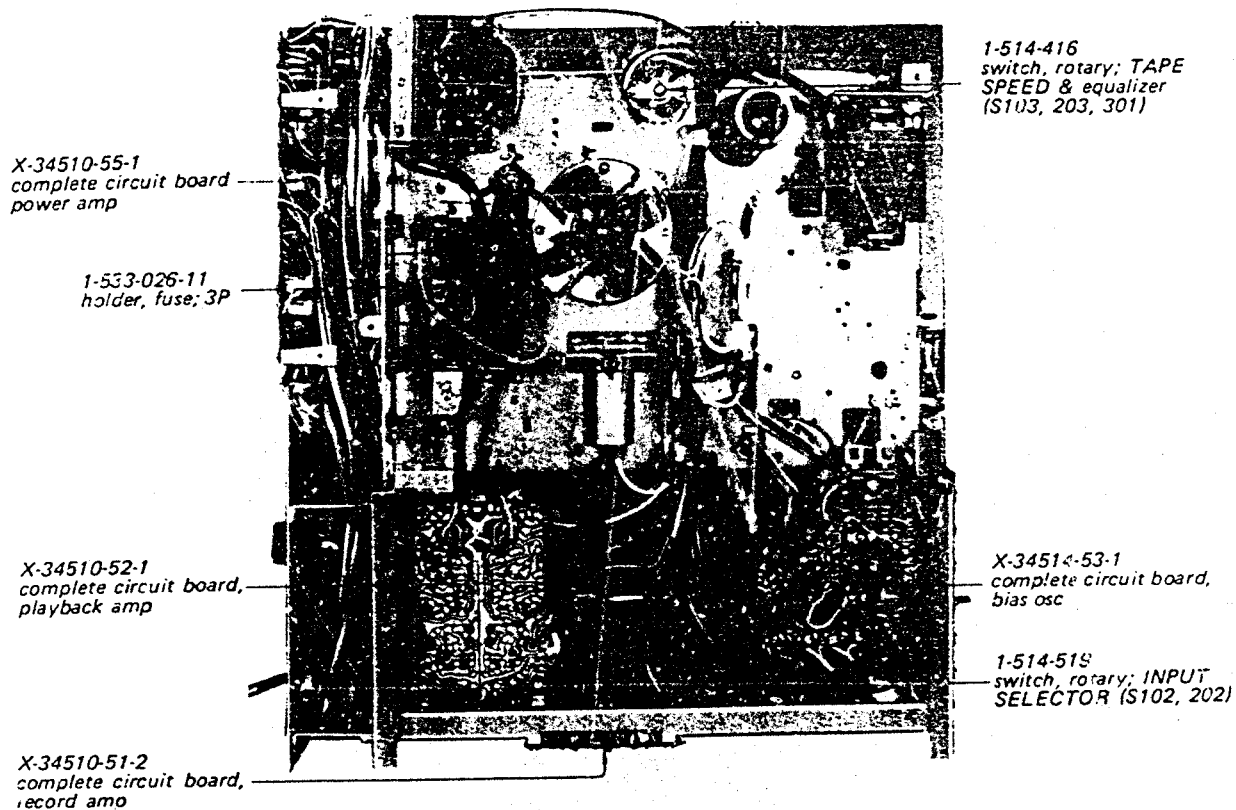
1-6. CHASSIS SIDE VIEW (USA, Canada)



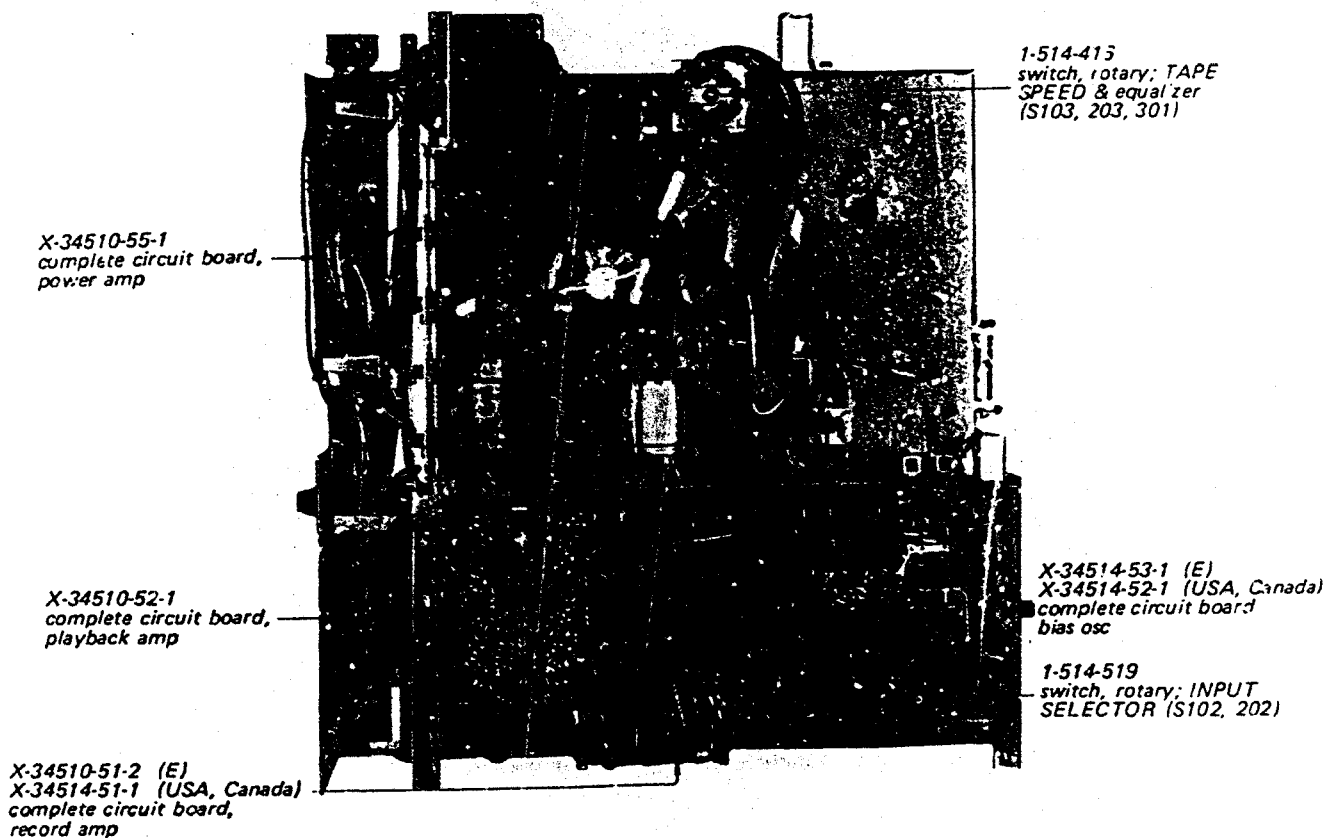
1-7. CHASSIS TOP VIEW



1-8. CHASSIS BOTTOM VIEW (AEP, UK)

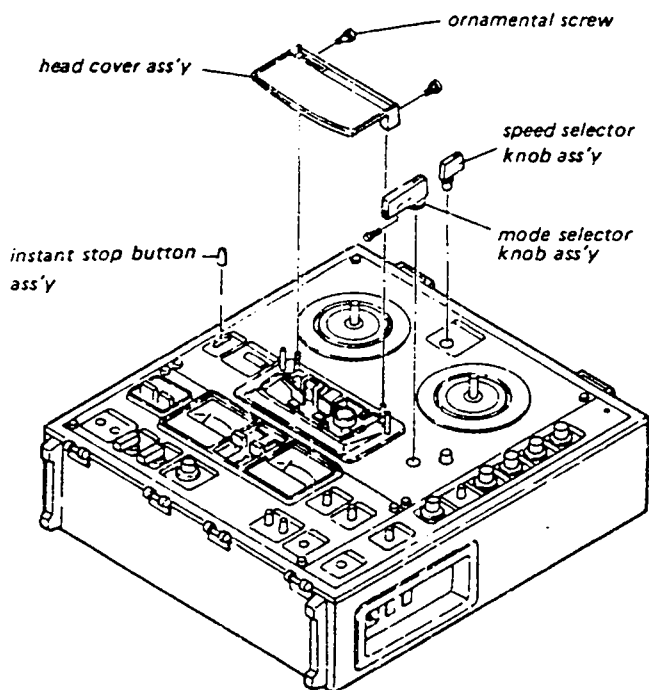


1-9. CHASSIS BOTTOM VIEW (E, USA, Canada)

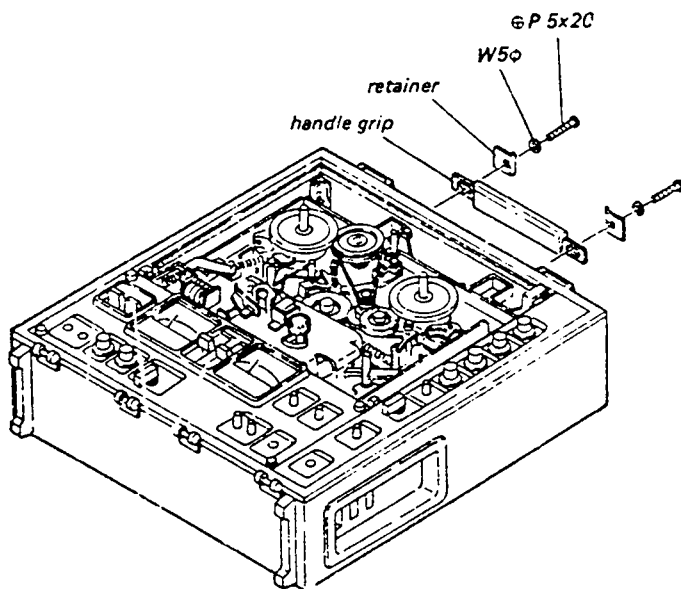


SECTION 2 DISASSEMBLY

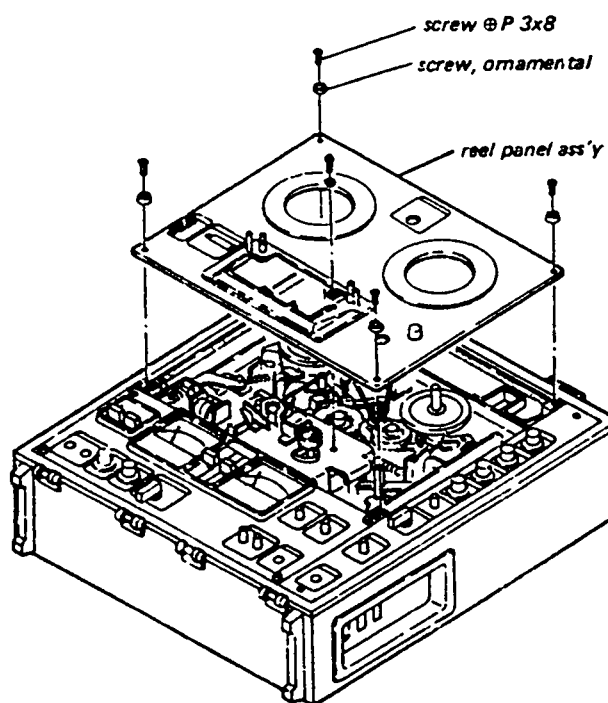
2-1. Knob and Head Cover Removal



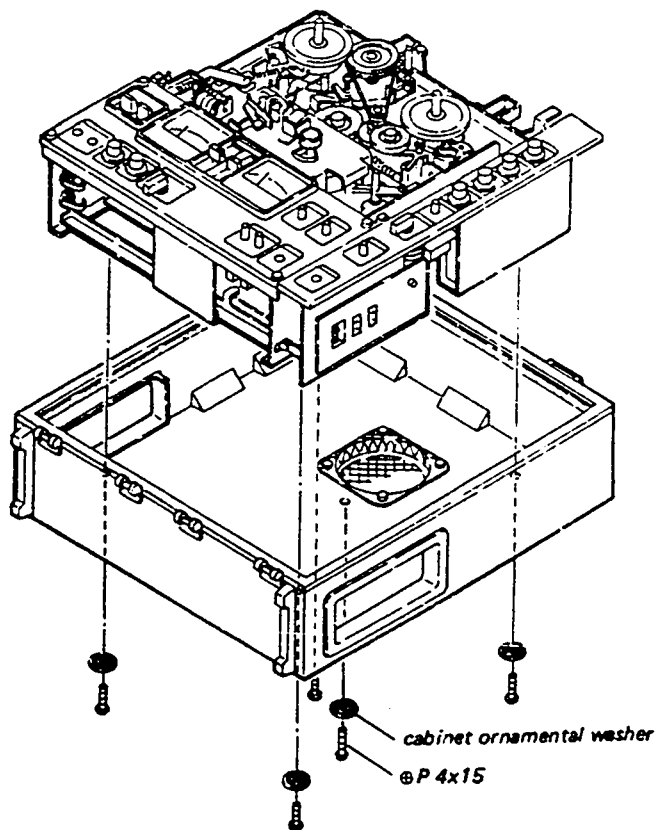
2-3. Handle Grip Removal



2-2. Reel Panel Removal



2-4. Cabinet Removal



SECTION 3 MAINTENANCE

3-1. Lubrication

The following parts of the tape transport mechanism require lubrication after two thousand hours of operation or once a year, whichever occurs first. Lubrication is important to insure proper operation of the equipment.

Motor: Motor requires 4 or 5 drops of SONY Oil (light machine oil).



Fig. 3-1 Motor lubrication

Capstan: Capstan requires 2 or 3 drops of SONY Oil (light machine oil).

Pinch Roller: Pinch Roller requires 2 or 3 drops of SONY Oil (light machine oil).

Idler: Idlers require lubrication only if they become noisy. Use no more than one drop of SONY Oil (light machine oil).

CAUTION

If the oil is spilled on the rubber wheel or the belt, wipe it off immediately with denatured alcohol.

3-2. Cleaning

The following parts must be cleaned with a lintless cloth moistened with denatured alcohol for optimum performance.

capstan
pinch roller
flywheel
idlers
tape roller
heads

This cleaning is important for the tape threading path to prevent a loss of positive drive at capstan, dropouts, wow and flutter, or poor frequency response.

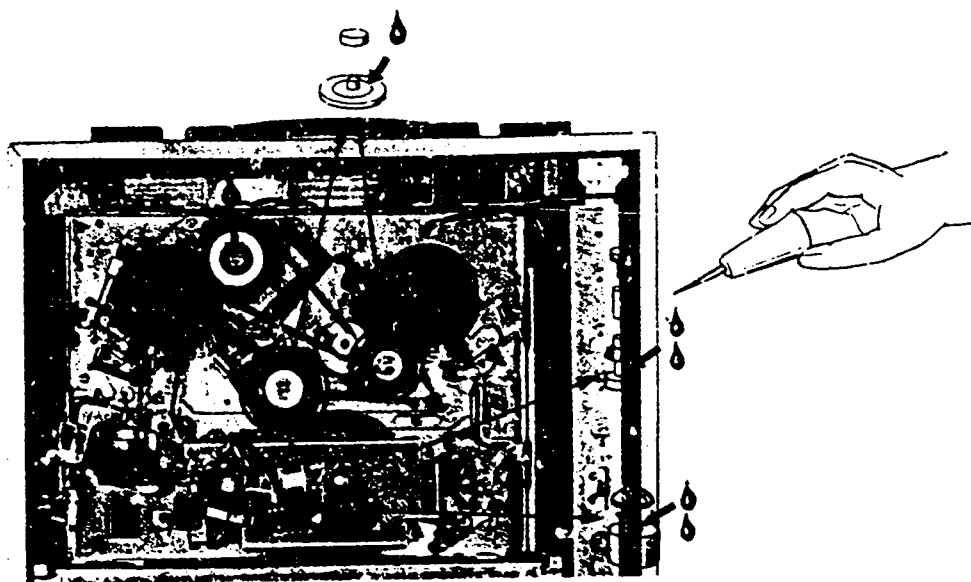


Fig. 3-2 Lubrication

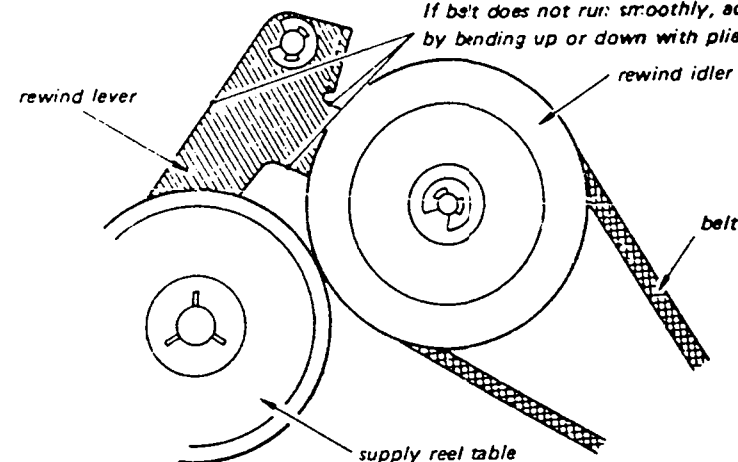
SECTION 4 ADJUSTMENTS

4.1. MECHANICAL ADJUSTMENT

Rewind Idler Adjustment

in REWIND mode

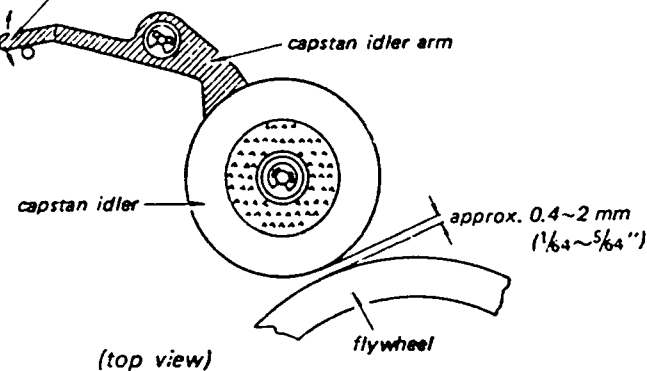
If belt does not run smoothly, adjust by bending up or down with pliers.



Capstan Idler Position Adjustment

in STOP mode at the speed of 4.8 cm/s (1 7/8 ips)

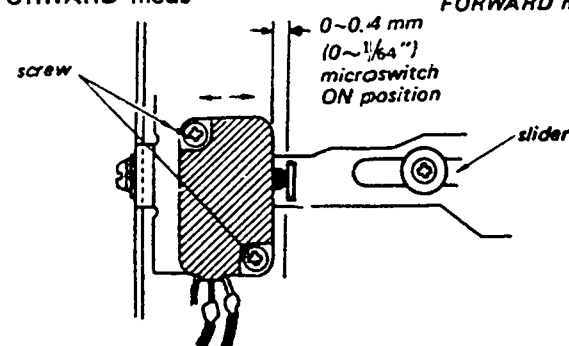
Adjust by bending with pliers.



Bias Shut-Off Switch (S304) Position Adjustment

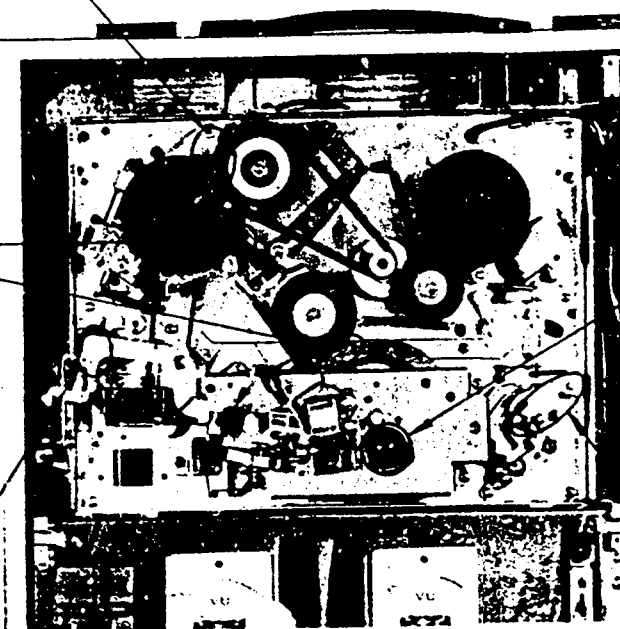
in FORWARD mode

Correct the position of slider's end in FORWARD mode.



Loosen the screws shown and adjust the switch position.

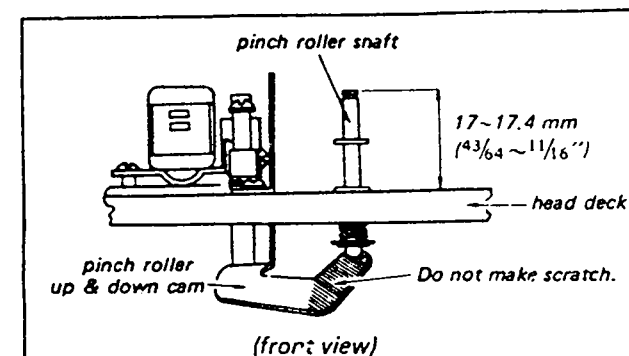
(top view)



Adjustment locations

Pinch Roller Shaft Height Adjustment

in FORWARD mode

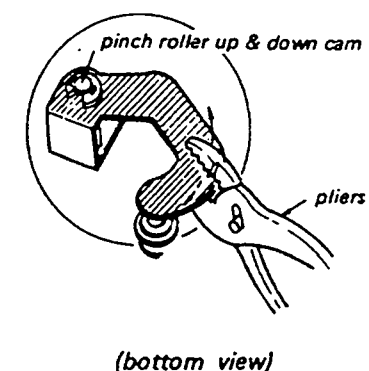


1. When adjusting roughly

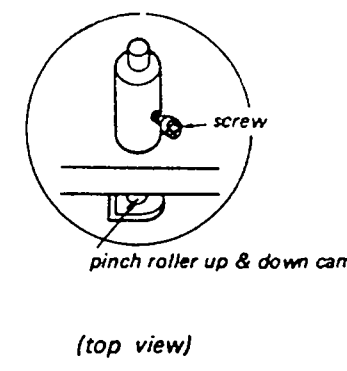
Adjust by bending with pliers moving up or down as shown below.

2. When adjusting accurately

Adjust to obtain 17~17.4 mm ($43/64 \sim 11/16$ inch) by loosening the screw and moving the shaft up or down. After fastening the screw, apply lock paint.



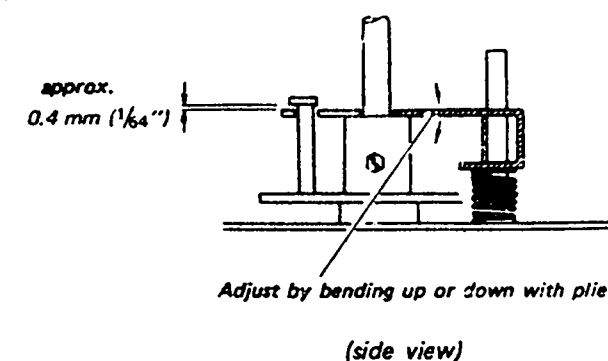
(bottom view)



(top view)

FAST FORWARD Lever Position Adjustment

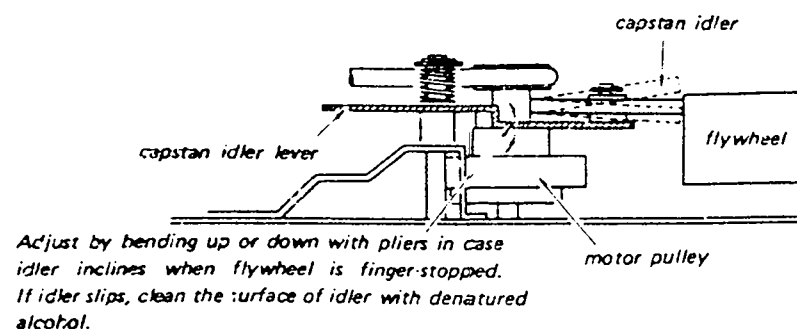
in FAST FORWARD mode



(side view)

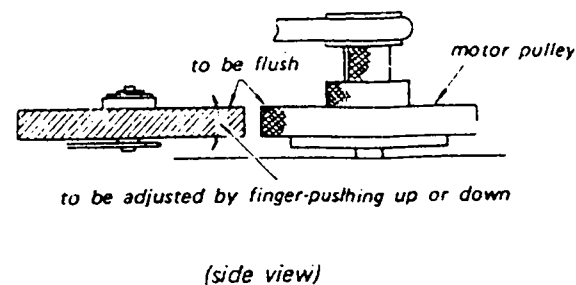
Capstan Idler Slip Check

in FORWARD mode at the speed of 4.8 cm/s (17/8 ips)



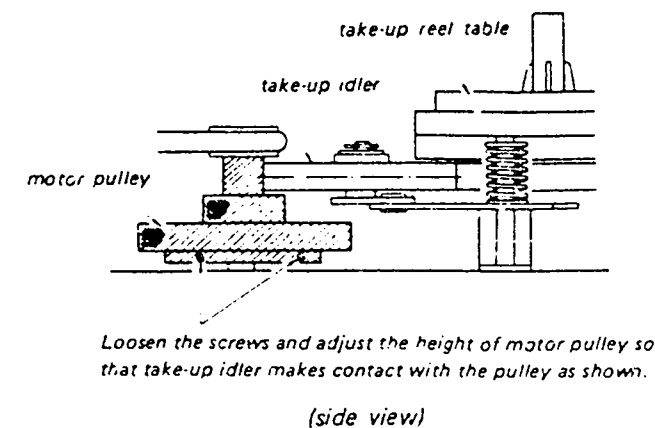
Capstan Idler Height Adjustment

in STOP mode at the speed of 19 cm/s (7 1/2 ips)



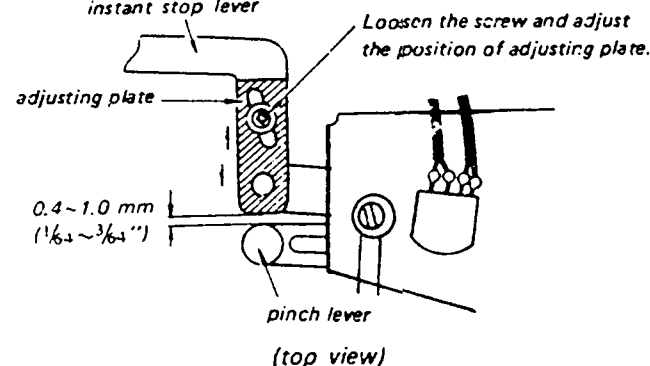
Motor Pulley Height Adjustment

in FORWARD mode at the speed of 4.8 cm/s (17/8 ips)



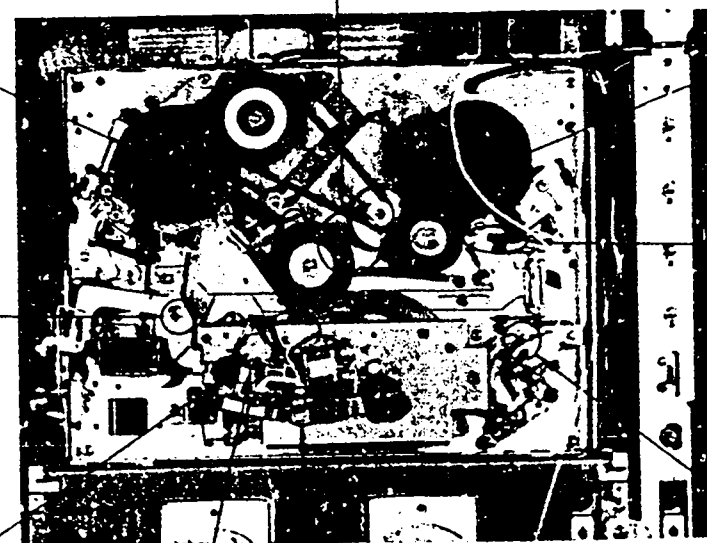
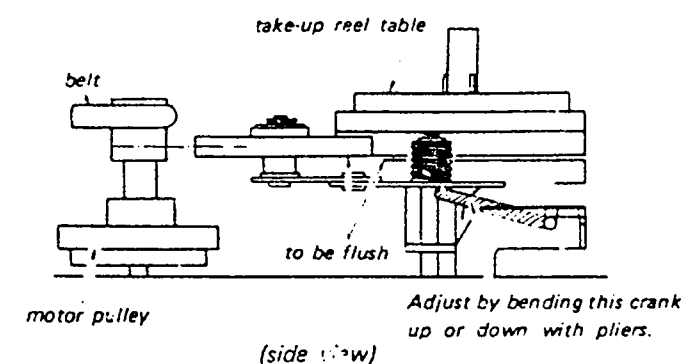
Instant Stop Lever Adjustment

in FORWARD mode without capstan sleeve attached



Take-up Idler Height Adjustment

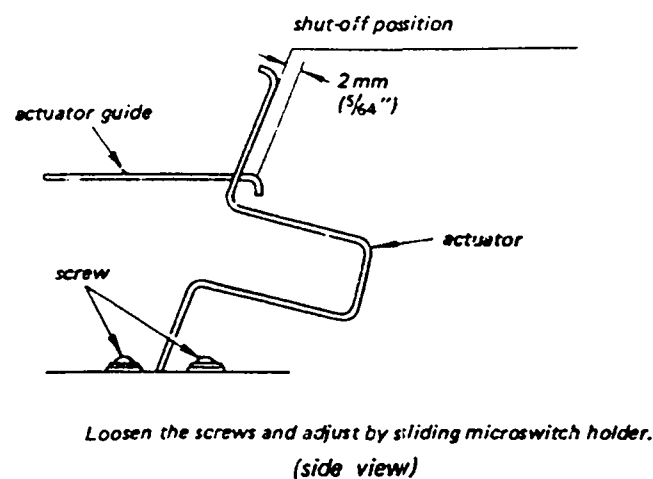
in FAST FORWARD mode



Located at the bottom side.

Adjustment locations

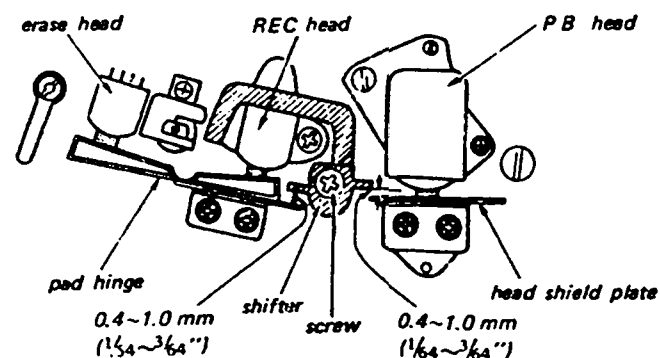
Automatic Shut-Off Switch Adjustment



Shifter Adjustment

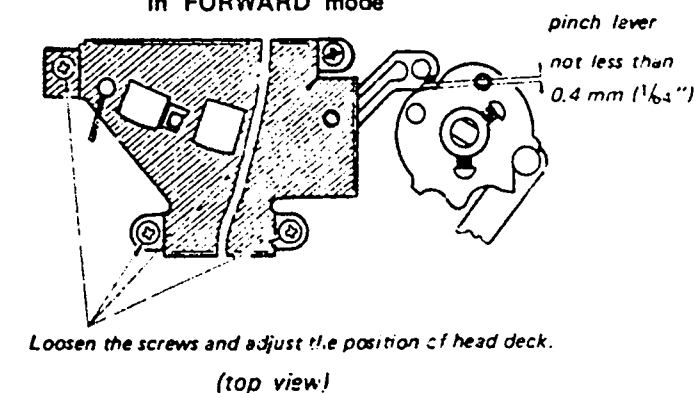
in FORWARD mode

In forward mode, there should be the clearance of 0.4~1.0 mm (1/64~3/64 inch) as shown. In fast forward mode, tape should not contact heads. Make the adjustment with sleeve attached to capstan and without sleeve. Loosen the screw and adjust by positioning shifter.



Head Deck Position Adjustment

in FORWARD mode



4.2. ADAPTATION TO DIFFERENT POWER LINE FREQUENCY (AEP, E)

From 50 Hz to 60 Hz

Set the power frequency selector switch to 60 Hz and remove the capstan sleeve.

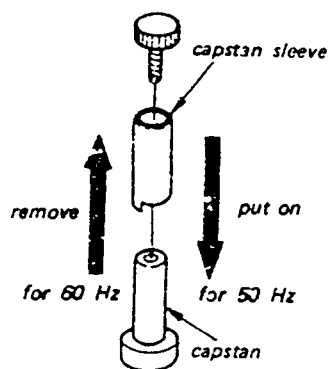
From 60 Hz to 50 Hz

Set the power frequency selector switch to 50 Hz and put on the capstan sleeve.



power frequency
selector switch

Power frequency selector switch



Capstan sleeve

4-3. ELECTRICAL ADJUSTMENTS

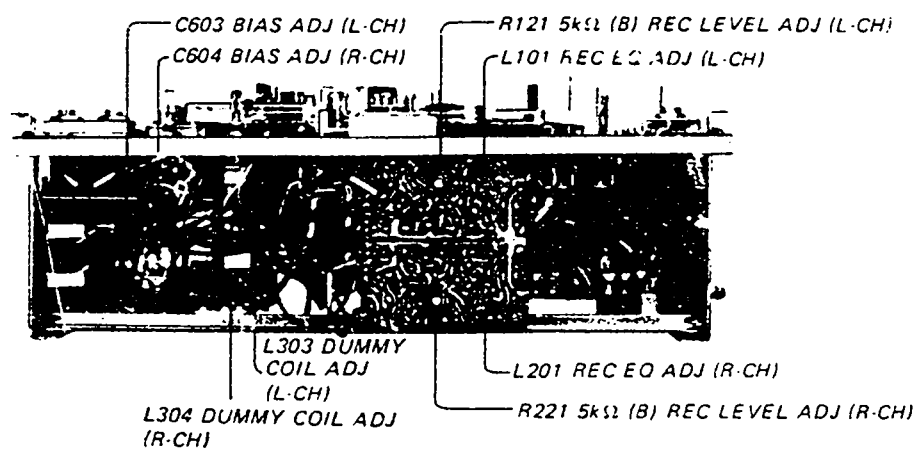


Fig. 4-3-1 Adjustment location

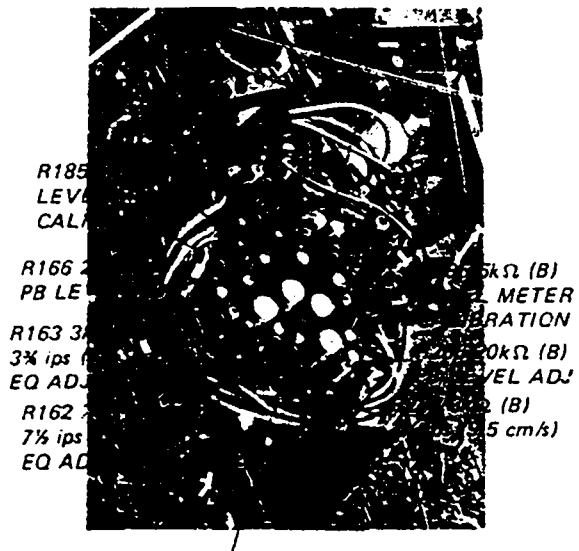


Fig. 4-3-2 Adjustment location

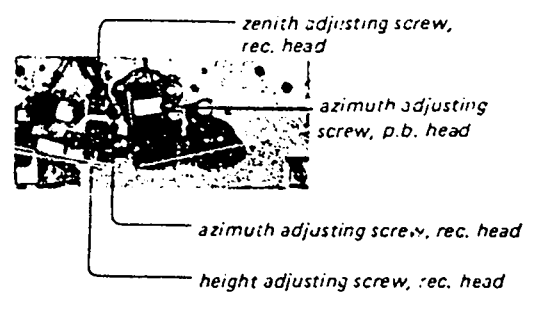


Fig. 4-3-3 Adjusting screws

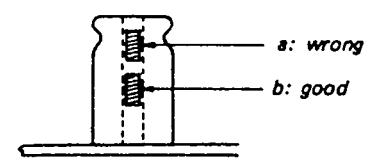


Fig. 4-3-4 Core setting of L101 (L201)

Notes

1. Before making the adjustments, be sure to clean the heads with cloth or swab dampened with denatured alcohol and to demagnetize the record and playback heads with a head demagnetizer (SONY HE-2).
2. The adjustments should be made in numerical order.
3. The SOS switch and the NOISE SUPPRESS switch should be set in OFF position.
4. The adjustments should be made at 19 cm/s (7 1/2 ips) tape speed except the item 3.

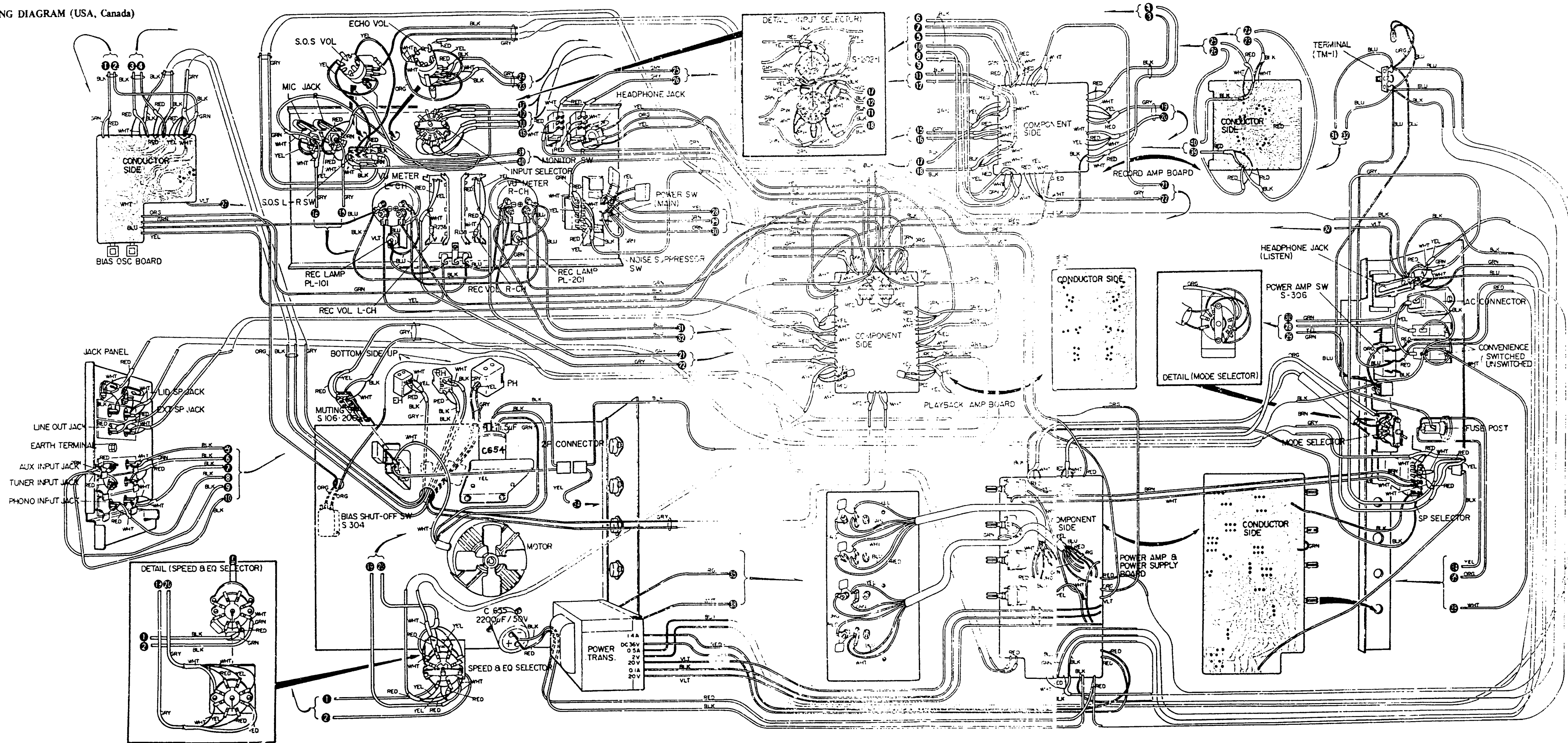
5. After the adjustments, apply lock paint to the parts adjusted.
6. The following test equipment is to be used for the adjustments:
 - ☆ audio signal generator
 - ☆ alternator 600Ω
 - ☆ VTVM
 - ☆ SONY adjustment tape, J-19-F1 & J-19-F2

☆ 100kΩ resistor

7. Bias voltages across the heads should be read on VTVM as follows:
 - record head: approx. 16 volts at 19 cm/s (7 1/2 ips)
 - 14 volts at 9.5 cm/s (3 3/4 ips)
 - 12 volts at 4.8 cm/s (1 3/4 ips)
 - erase head: approx. 120 volts

Item	Signal Source	Output Connection	Mode	Adjust	Procedures and Remarks																								
1. Playback Head Azimuth Adjustment	10 kHz, 3rd tone of SONY adjustment tape, J-19-F2 MONITOR switch: TAPE	VTVM and 100k Ω resistor in parallel with LINE OUT jack	PLAYBACK	playback head azimuth adjusting screw See F Fig. 4-3-3.	Adjust the screw to obtain maximum reading on VTVM.																								
2. Playback Level Adjustment and Level Meter Calibration	400 Hz, 1st tone of SONY adjustment tape, J-19-F2 MONITOR switch: TAPE	VTVM and 100k Ω resistor in parallel with LINE OUT jack	PLAYBACK	L-CH: R166 R185 R-CH: R266 (20k Ω ; B) R285 (5k Ω ; B) See F Fig. 4-3-2.	1. Adjust R166 (L-CH) and R266 (R-CH) to obtain 0 dB (0.775V) on VTVM. 2. Adjust R185 (L-CH) and R285 (R-CH) so that pointers of level meters stay at 0 VU (100%).																								
3. Playback Equalizer Adjustment (1) 19 cm/s (7½ ips)	SONY adjustment tape, J-19-F2 MONITOR switch: TAPE	VTVM and 100k Ω resistor in parallel with LINE OUT jack	PLAYBACK	L-CH: R1162 2k Ω (B) See F Fig. 4-3-2.	Deviation against the level at 400 Hz of 3rd tone <table><tr><td>Tape tone</td><td>4th</td><td>5th</td><td>6th</td><td>7th</td><td>8th</td></tr><tr><td>Frequency</td><td>12.5 kHz</td><td>10 kHz</td><td>7 kHz</td><td>80 Hz</td><td>40 Hz</td></tr><tr><td>L-CH</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>+3.0\pm2 dB</td><td>+2.0\pm2 dB</td></tr><tr><td>R-CH</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>+3.5\pm2 dB</td><td>+3.0\pm2 dB</td></tr></table> After the adjustment, repeat the playback level adjustment.	Tape tone	4th	5th	6th	7th	8th	Frequency	12.5 kHz	10 kHz	7 kHz	80 Hz	40 Hz	L-CH	0 \pm 2 dB	0 \pm 2 dB	0 \pm 2 dB	+3.0 \pm 2 dB	+2.0 \pm 2 dB	R-CH	0 \pm 2 dB	0 \pm 2 dB	0 \pm 2 dB	+3.5 \pm 2 dB	+3.0 \pm 2 dB
Tape tone	4th			5th	6th	7th	8th																						
Frequency	12.5 kHz	10 kHz	7 kHz	80 Hz	40 Hz																								
L-CH	0 \pm 2 dB	0 \pm 2 dB	0 \pm 2 dB	+3.0 \pm 2 dB	+2.0 \pm 2 dB																								
R-CH	0 \pm 2 dB	0 \pm 2 dB	0 \pm 2 dB	+3.5 \pm 2 dB	+3.0 \pm 2 dB																								
(2) 9.5 cm/s (3¾ ips)	SONY adjustment tape, J-9-F1 MONITOR switch: TAPE	L-CH: R1163 3k Ω (B) See F Fig. 4-3-2.	Deviation against the level of 400 Hz of 3rd tone <table><tr><td>Tape tone</td><td>4th</td><td>5th</td><td>6th</td><td>7th</td></tr><tr><td>Frequency</td><td>5 Hz</td><td>2.5 kHz</td><td>200 Hz</td><td>80 Hz</td></tr><tr><td>L-CH</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>+2\pm2 dB</td><td>+0.5\pm2 dB</td></tr><tr><td>R-CH</td><td>0\pm2 dB</td><td>0\pm2 dB</td><td>+2.5\pm2 dB</td><td>+1.0\pm2 dB</td></tr></table>	Tape tone	4th	5th	6th	7th	Frequency	5 Hz	2.5 kHz	200 Hz	80 Hz	L-CH	0 \pm 2 dB	0 \pm 2 dB	+2 \pm 2 dB	+0.5 \pm 2 dB	R-CH	0 \pm 2 dB	0 \pm 2 dB	+2.5 \pm 2 dB	+1.0 \pm 2 dB						
Tape tone	4th	5th	6th	7th																									
Frequency	5 Hz	2.5 kHz	200 Hz	80 Hz																									
L-CH	0 \pm 2 dB	0 \pm 2 dB	+2 \pm 2 dB	+0.5 \pm 2 dB																									
R-CH	0 \pm 2 dB	0 \pm 2 dB	+2.5 \pm 2 dB	+1.0 \pm 2 dB																									
4. Bias Trap Coil Adjustment	_____	VTVM to test point and ground (See page 25, TP)	RECORD	L-CH: L3301 1.8 mH See F Fig. 4-3-1.	1. Set the REC VOL controls (R135 & R235) to minimum. 2. Adjust to obtain minimum reading on VTVM.																								
5. Record Head Height Adjustment	1 kHz, -60 dB (0.78 mV) to MIC jack INPUT SELECTOR: MIC	VTVM and 100k Ω resistor in parallel with LINE OUT jack	RECORD	record head height, zenith and azimuth adjusting screw See F Fig. 4-3-3.	1. Turn the three screws (height, zenith and azimuth adjusting) so that the record head will be visually horizontal. 2. Set the MONITOR switch to TAPE. 3. Turn the height adjusting screw to obtain maximum reading on VTVM. Memorize the number of turns. 4. Turn the zenith and azimuth adjusting screws the same number of turns of height adjusting screw. 5. Follow the steps 3 and 4 to obtain maximum reading.																								
6. Record Head Azimuth Adjustment	15 kHz, -90 dB (24.5 μ V) to MIC jack INPUT SELECTOR: MIC	VTVM and 100k Ω resistor in parallel with LINE OUT jack	RECORD	record head azimuth adjusting screw See F Fig. 4-3-3.	1. Set the MONITOR switch to TAPE position. 2. Turn the azimuth adjusting screw to obtain maximum reading on VTVM. Within one turn of the screw, the maximum reading should be obtained. If not, repeat the adjustment as in the item 5.																								
7. Record Bias Adjustment	1 kHz, -60 dB (0.78 mV) to MIC jack INPUT SELECTOR: MIC	VTVM and 100k Ω resistor in parallel with LINE OUT jack	RECORD	L-CH: C603 30-200pF See Fig. 4-3-1.	1. Set the MONITOR switch to TAPE position. 2. Turn the trimmer capacitors counterclockwise and set them in minimum capacitance position. 3. Recording the signal, turn the trimmer capacitor (C603, L-CH) clockwise slowly until the VTVM reads the maximum value. 4. Continue to turn the capacitor until the VTVM reads a value 0.5 dB below the maximum reading. Read the VTVM reading. 5. Adjust the trimmer capacitor (C604, R-CH) in the same way. 6. Make sure that the reading of L-CH is the same as the one reading in the step 4. 7. If not, follow the steps 2-6 again.																								
8. Record Level Adjustment	1 kHz, -60 dB (0.78 mV) to MIC jack INPUT SELECTOR: MIC	VTVM and 100k Ω resistor in parallel with LINE OUT jack	RECORD	L-CH: R121 5k Ω (B) See Fig. 4-3-1.	1. Set the MONITOR switches (S105 & S205) to SOURCE position. 2. Feeding the signal, slide the REC VOL controls (R135 & R235) so that the level meters indicate 0 VU (100%). 3. Record the signal on a blank tape. 4. Set the MONITOR switches (S105 & S205) to TAPE position. 5. Adjust R121 (R221) so that VTVM indicates 0 dB (0.775V).																								
9. Record Equalizer Adjustment	1k, 20 kHz, -90 dB (224.5 μ V) to MIC jack INPUT SELECTOR: MIC	VTVM and 100k Ω resistor in parallel with LINE OUT jack	RECORD	L-CH: L101 1.8/1.45 mH See Fig. 4-3-1.	1. Set the MONITOR switches (S105 & S205) to TAPE position. 2. Record an 1 kHz signal of -90 dB (24.5 μ V) on a blank tape and read the VTVM reading. 3. Record a 20 kHz signal of -90 dB (24.5 μ V) and adjust L101 (L201) so that VTVM reading is the same as the one of 1 kHz signal. Note: Two peaks appear during turning L101 (L201). Take the peak where the core is "b" position shown in Fig. 4-3-4.																								
10. Dummy Coil Adjustment	_____	VTVM to test point (See page 25, TP)	RECORD	at mode L-CH: L304 at mode R-CH: L303 See Fig. 4-3-1.	1. Set the REC VOL controls (R135 & R235) to minimum. 2. Read the VTVM readings of both channels. 3. Set the machine in L-CH RECORD mode. 4. Adjust L304 so that VTVM reading is the same as the one reading in the step 2. 5. Set the machine in R-CH RECORD mode and adjust L303 in the same way.																								

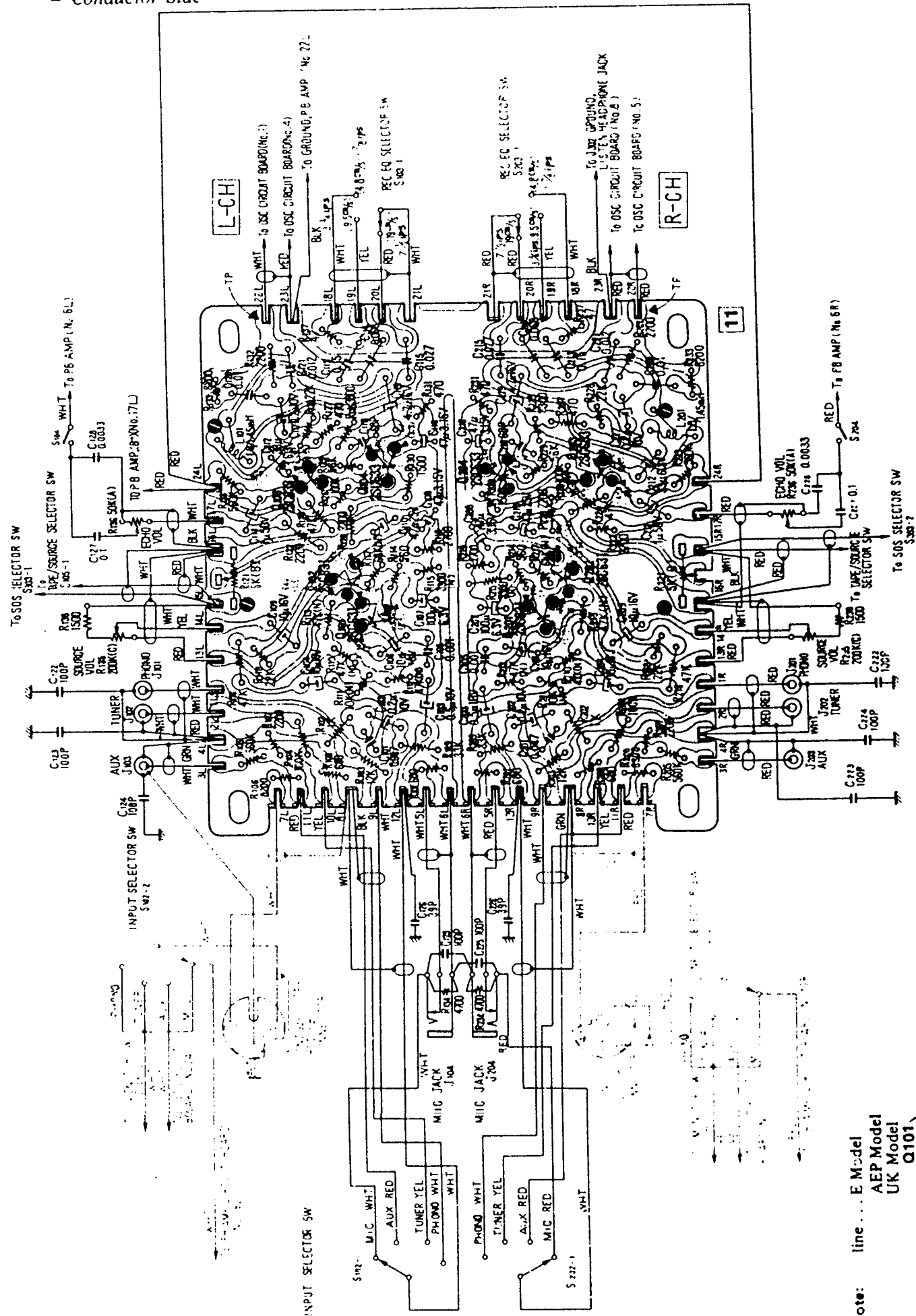
5-2. WIRING DIAGRAM (USA, Canada)



5.3. MOUNTING DIAGRAMS

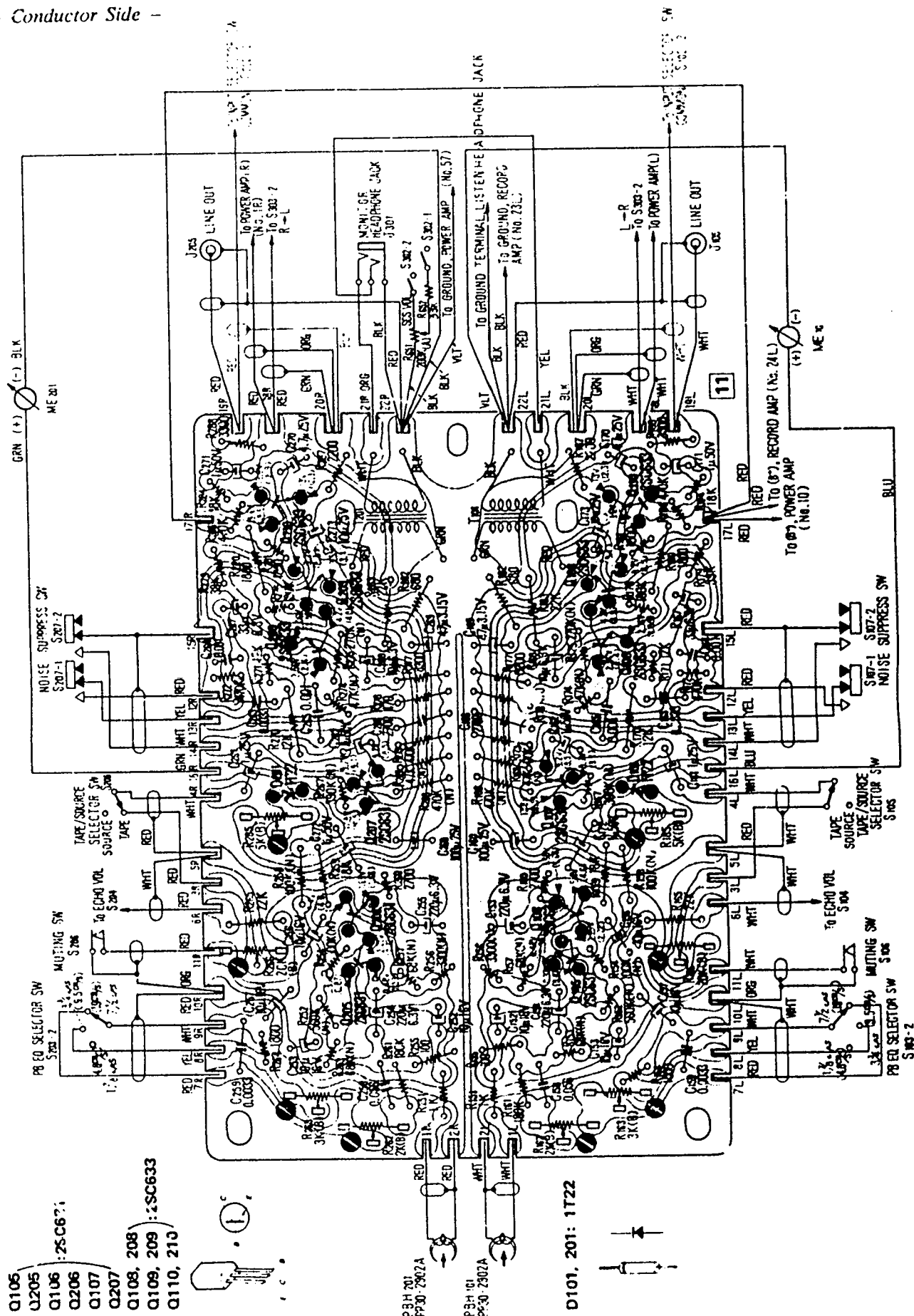
Record Amp Circuit Board

- Conductor Side -



Playback Amp Circuit Board

- Conductor Side -



Note: — line... F, A1'P, UK Model

— Conductor Side —



The diagram shows a mechanical component, likely a valve or a plug, with a cross-sectional view on the left and a top view on the right. The cross-section shows a cylindrical body with a central hole and two side ports. The top view shows a circular face with a central hole and two side ports, labeled 'a', 'b', and 'c'.

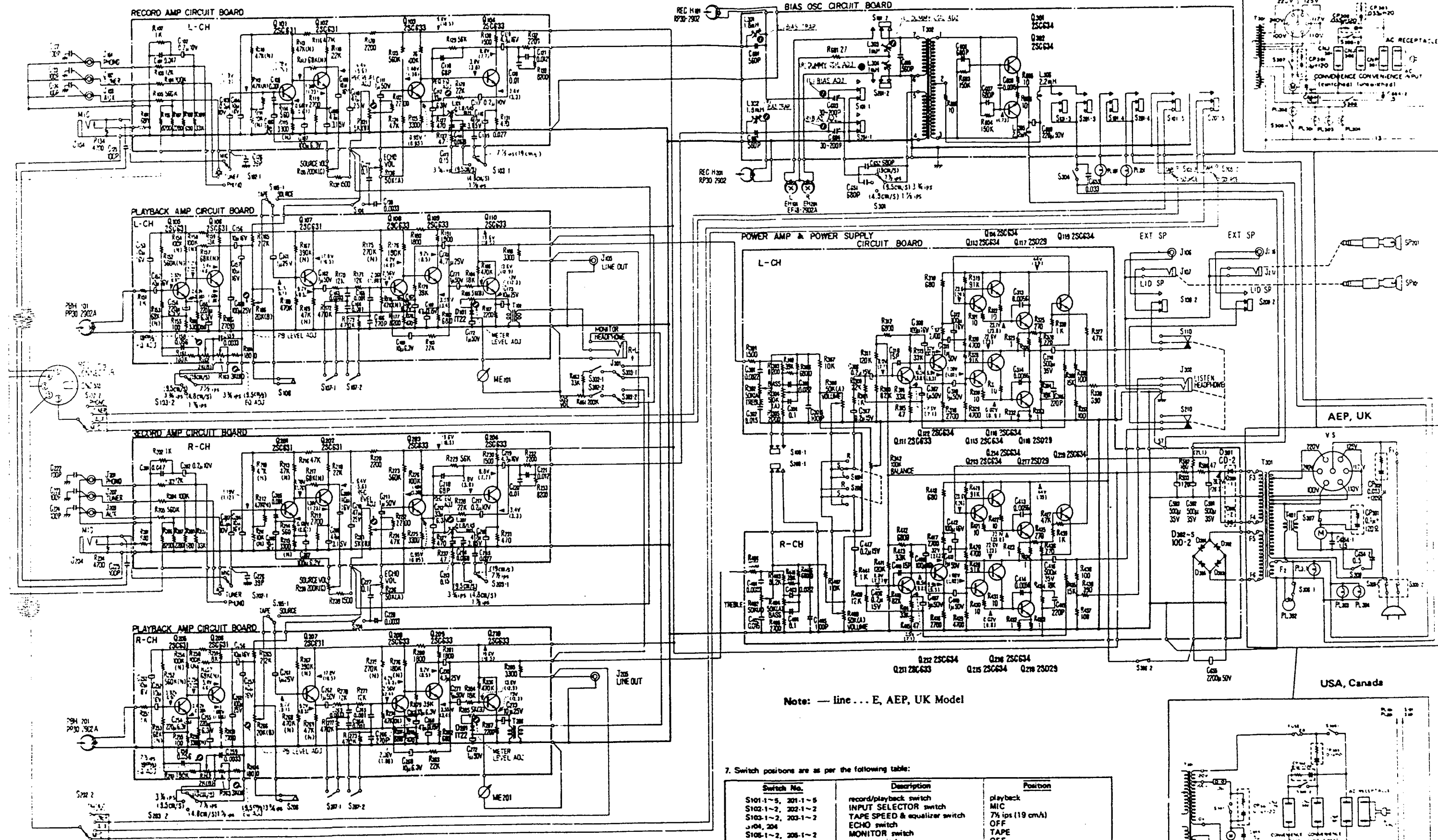
5-4. SCHEMATIC DIAGRAM

THE QUALITY OF
THIS MANUAL IS
THE BEST THAT
IS AVAILABLE

TC-630 TC-630

THE QUALITY OF
THIS MANUAL IS
THE BEST THAT
IS AVAILABLE

E



Notes:

1. adjustable
2. grounded to chassis
3. All resistors and capacitors are rated in Ω and μF respectively unless otherwise specified.
4. Resistor whose rating value is suffixed with the letter (N) is low-noise resistor.

5. The letter (A), (B) or (C) suffixed to rating value of variable resistor indicates its characteristic.

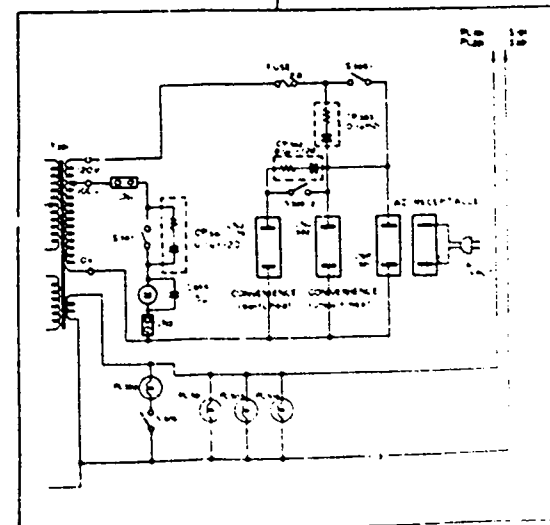
6. Voltage values are measured to ground with a VTVM in PLAYBACK and RECORD modes at the speed of 7 1/2 ips (19 cm/s). Variations may be noted due to normal production tolerances. Voltage values in RECORD mode are in parentheses.

Note: — line ... E, AEP, UK Model

7. Switch positions are as per the following table:

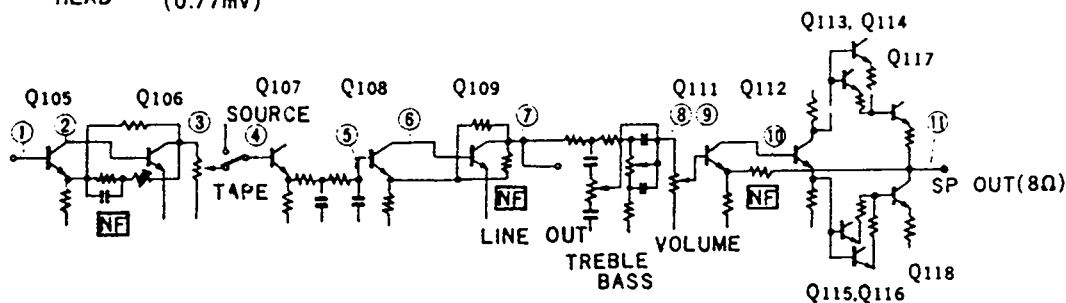
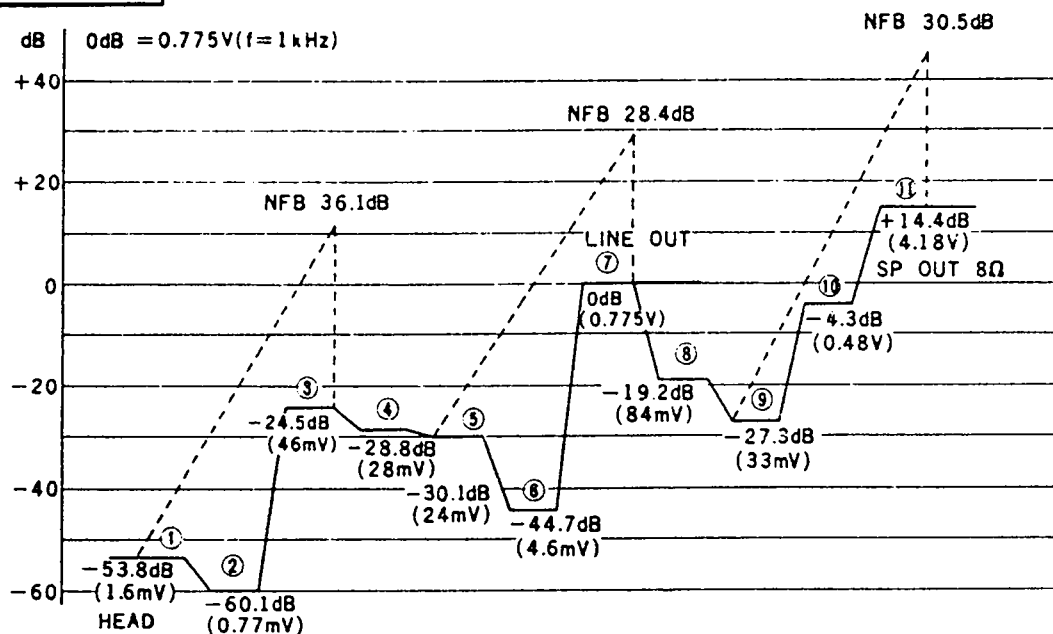
Switch No.	Description	Position
S101-1-5, 201-1-5	record/playback switch	playback
S102-1-2, 202-1-2	INPUT SELECTOR switch	MIC
S103-1-2, 203-1-2	TAPE SPEED & equalizer switch	7 1/2 ips (19 cm/s)
J104, 204	ECHO switch	OFF
S105-1-2, 205-1-2	MONITOR switch	TAPE
S106, 206	muting switch	OFF
S107-1-2, 207-1-2	NOISE SUPPRESS switch	OFF
S108-1-2, 208-1-2	SPEAKER SELECTOR switch	LIO
S109, 209	MODE selector switch	STEREO
S110, 210	HEADPHONE & speaker switch	speaker
S301	SPEED & equalizer switch	7 1/2 ips (19 cm/s)
S302-1, 302-2	SOS switch	OFF
S303-1, 303-2	SOS selector switch	L — R
S304	bias shut-off switch	ON (E, AEP, UK) OFF (USA, Canada)
S305-1, 305-2	POWER switch	ON (E, AEP, UK) OFF (USA, Canada)
S306-1, 306-2	POWER AMP switch	ON (E, AEP, UK) OFF (USA, Canada)
S307	auto-shut-off switch	ON (E, AEP, UK) OFF (USA, Canada)
S308	frequency selector switch	60Hz

USA, Canada

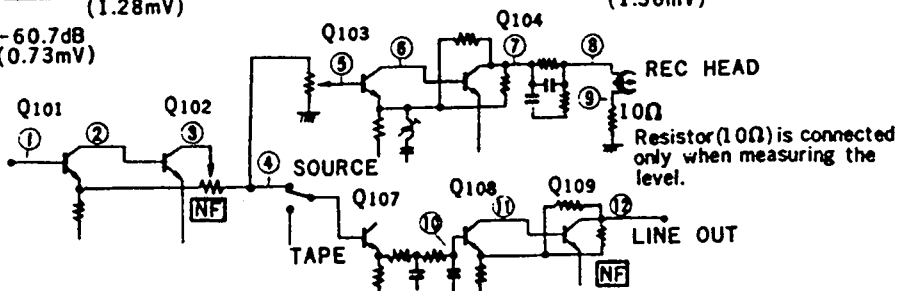
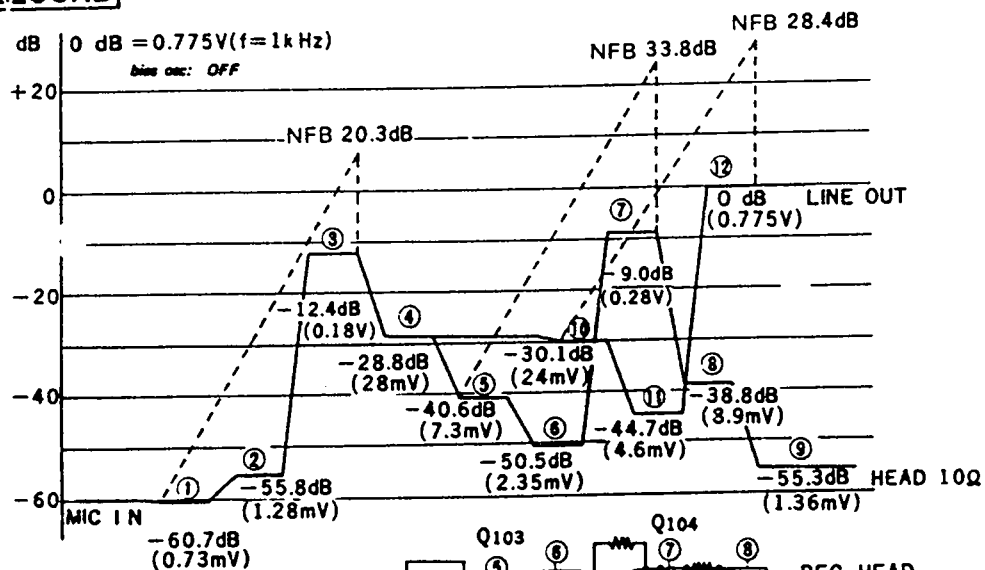


5.5. LEVEL DIAGRAMS

PLAYBACK



RECORD

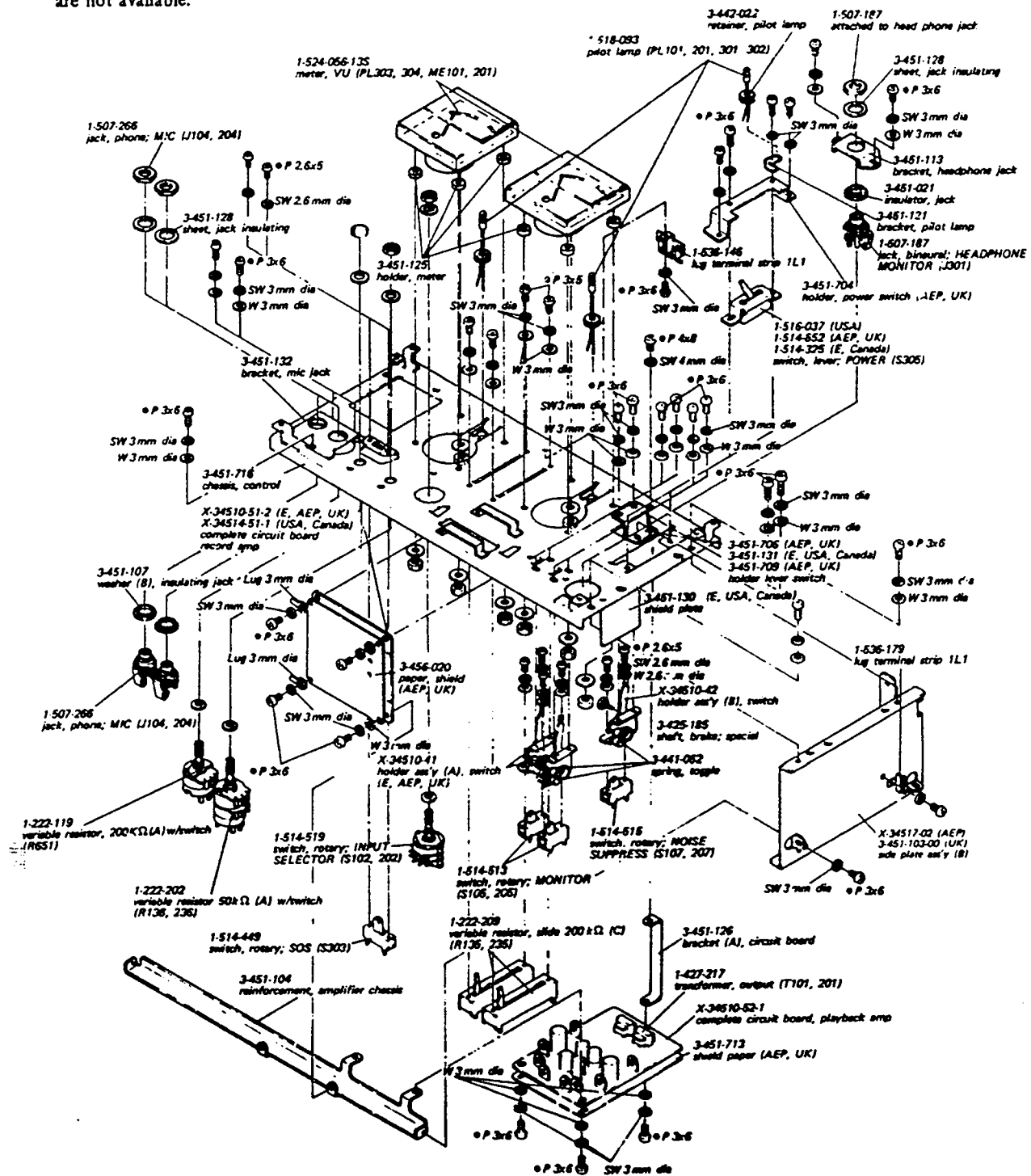


SECTION 6

EXPLODED VIEWS

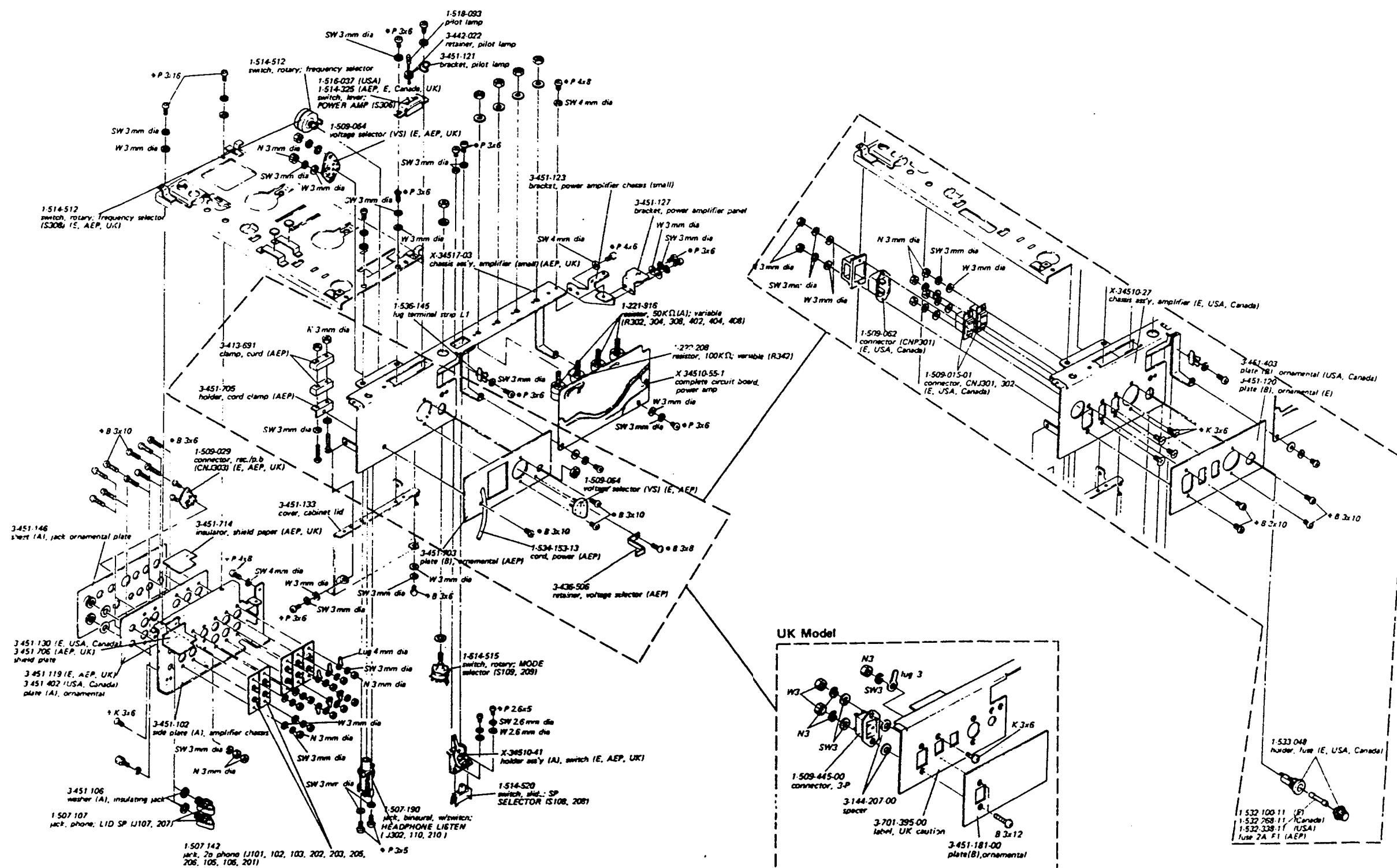
6-1. CONTROL CHASSIS - Top View -

Note: Parts without part numbers and names are not available.



6-3. AMP CHASSIS - Top View -

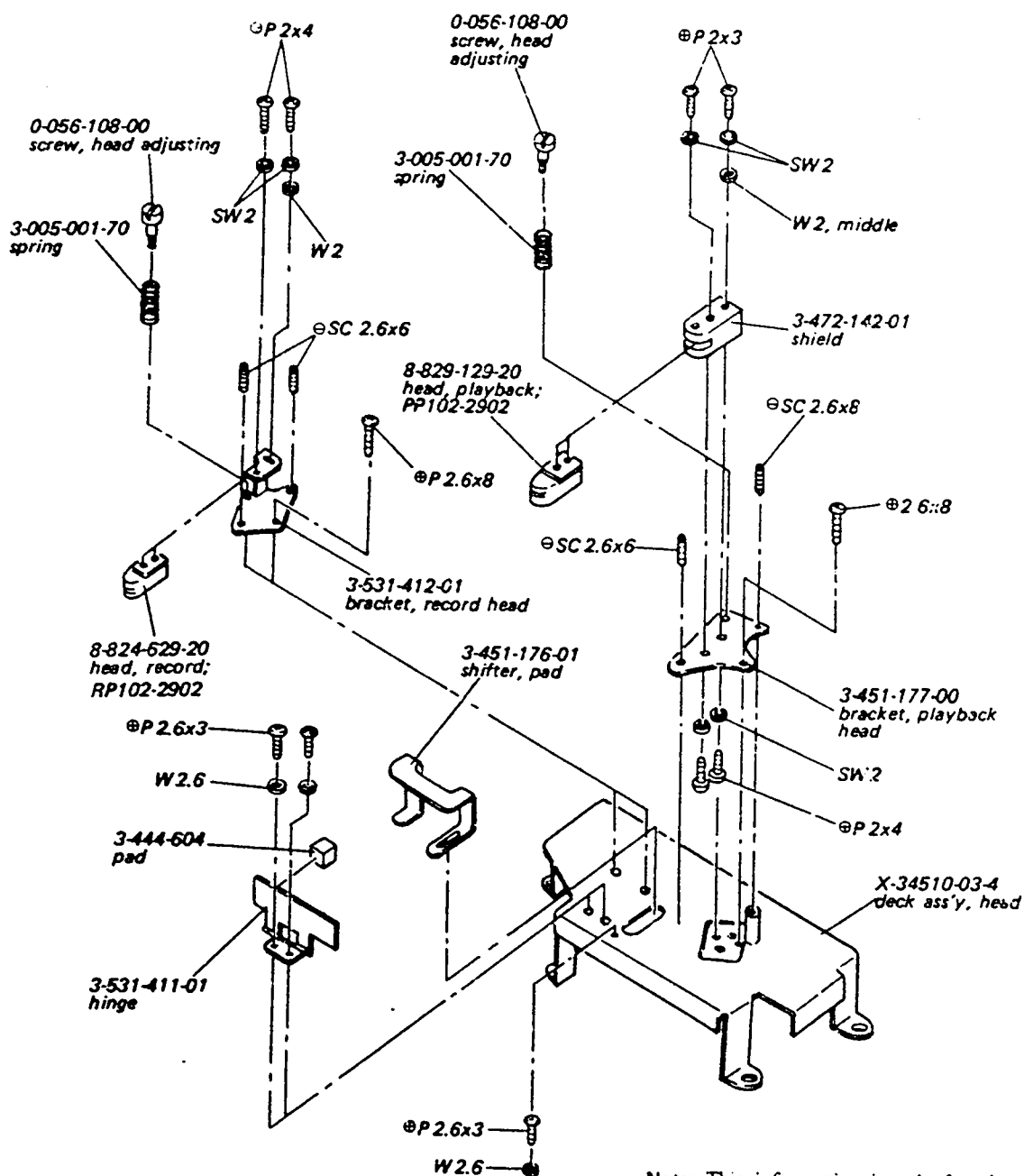
Note: Parts without part numbers and names are not available.



6-5 HEAD DECK - Top View -

Note: Parts without part numbers and names are not available.

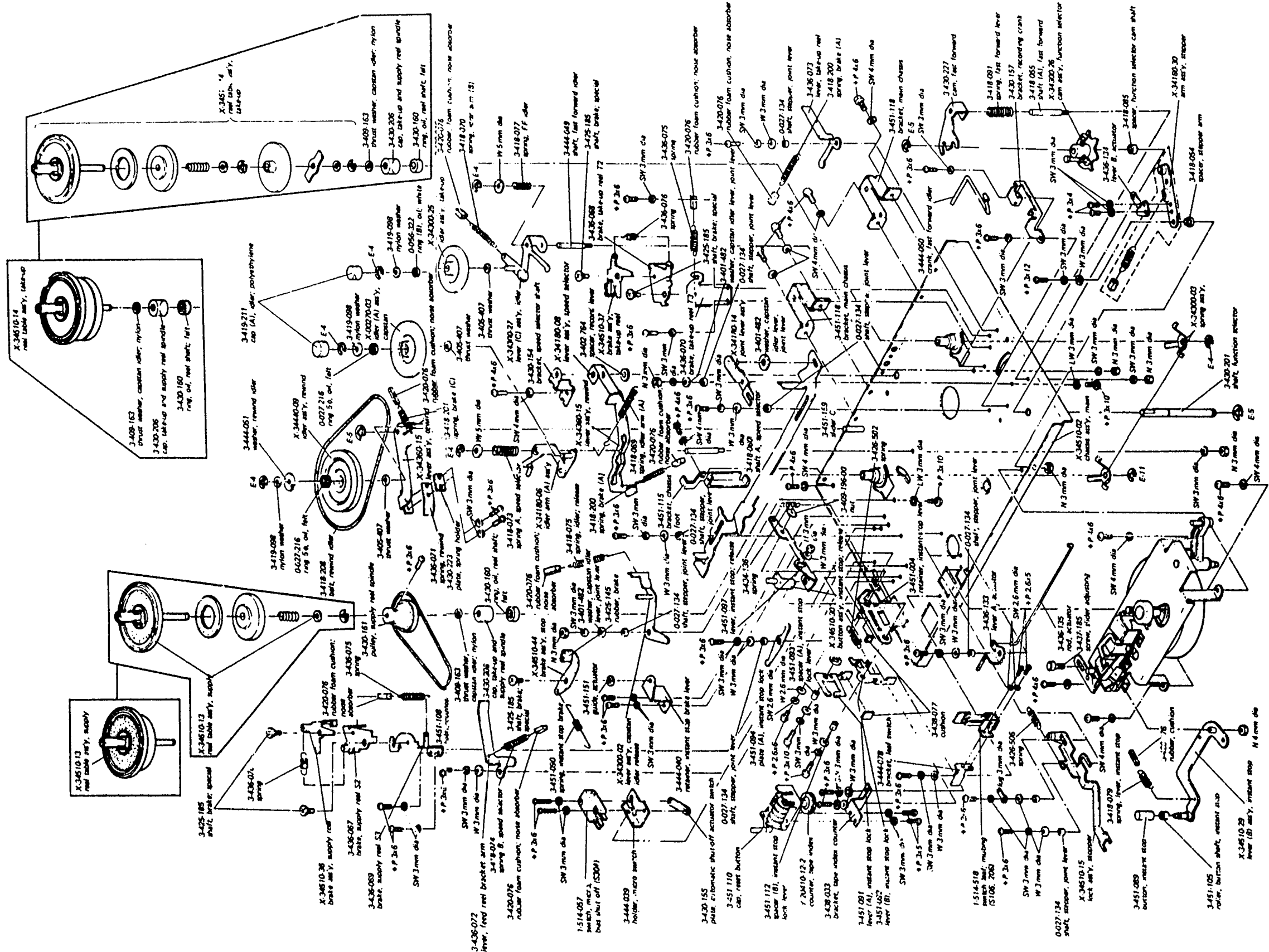
(Serial No. 124,701 and later)



Note: This information is only for changed parts of Serial No. 124,701 and later. See page 37 for other information.

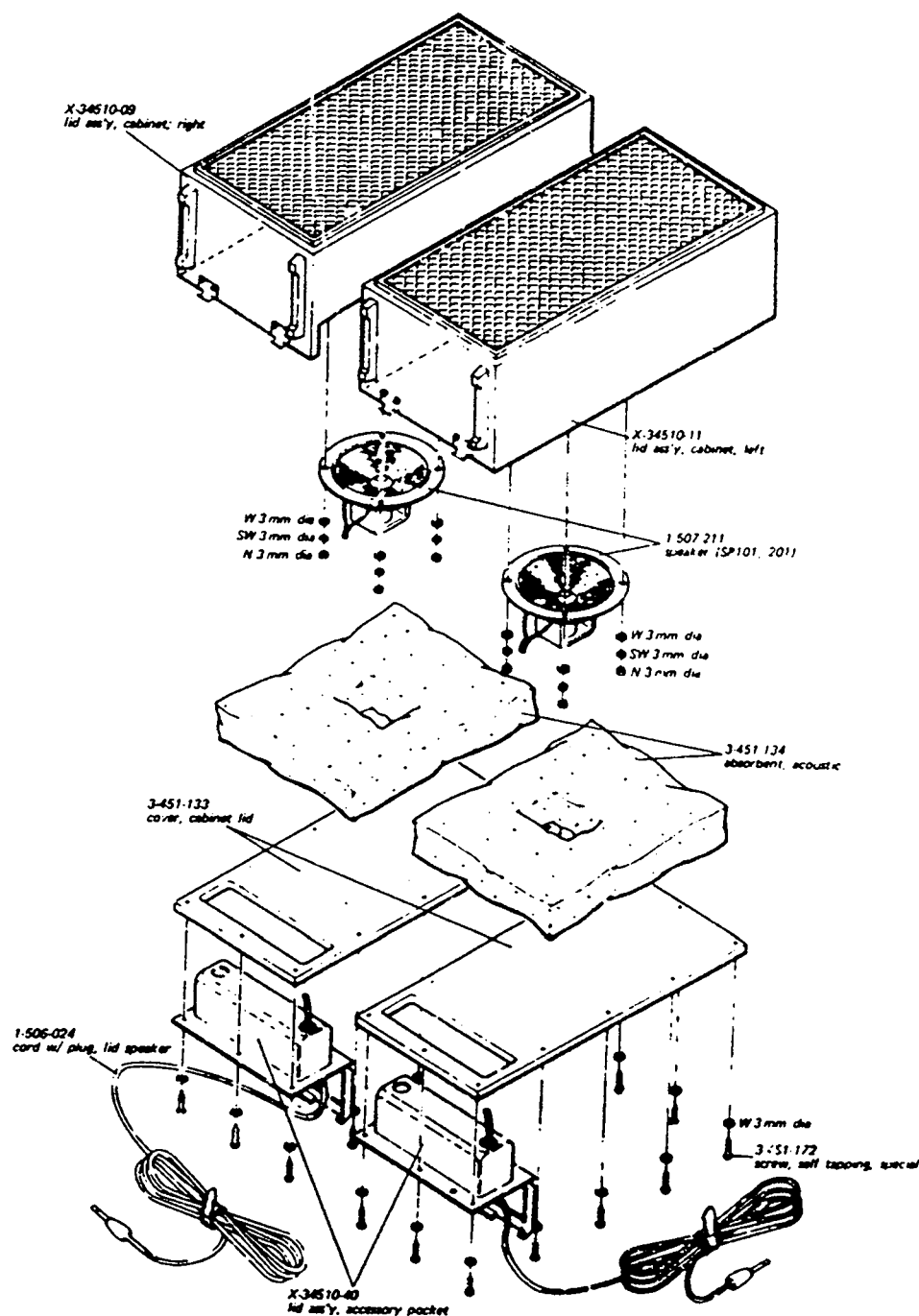
6-6. CHASSIS -- Top View --

Note: Parts without part numbers and names are not available.



6-8. SPEAKER BOX – Top View –

Note: Parts without part numbers and names are not available.



ACCESSORIES & PACKING

3-430-229-03	cap, reel	3-793-636-81	leaflet, tape talk (UK)
3-790-272-05	manual, instruction (E, AEP)	8-811-260-10	microphone, F-26
3-790-272-26	manual, instruction (USA)	8-918-210-71	tape, demonstration DSE-721 (E, AEP, Canada, UK)
3-790-272-44	manual, instruction (Canada)	X-34510-34-6	carton ass'y (E, AEP, Canada)
3-790-272-81	manual, instruction (UK)	X-34510-34-7	carton ass'y (USA)
3-793-010-20	leaflet, tape talk (E, AEP, Canada, USA)	X-37010-18-2	cleaning tip (E, AEP, Canada)

SECTION 7

ELECTRICAL PARTS LIST

Ref. No. Part No. Description

COMPLETE CIRCUIT BOARDS

X-34514-51-1 record amp (USA, Canada)
 X-34510-51-2 record amp (E, AEP, UK)
 X-34510-52-1 playback amp
 X-34510-55-1 power amp
 X-34514-52-1 bias osc (USA, Canada)
 X-34510-53-1 bias osc (E, AEP, UK)
 X-34510-54-1 trap coil

SEMICONDUCTORS

Q101, 201 transistor 2SC631
 Q102, 202 transistor 2SC631
 Q103, 203 transistor 2SC633
 Q104, 204 transistor 2SC633
 Q105, 205 transistor 2SC631
 Q106, 206 transistor 2SC631
 Q107, 207 transistor 2SC631
 Q108, 208 transistor 2SC633
 Q109, 209 transistor 2SC633
 Q110, 210 transistor 2SC633
 Q111, 211 transistor 2SC633
 Q112, 212 transistor 2SC634
 Q113, 213 transistor 2SC634
 Q114, 214 transistor 2SC634
 Q115, 215 transistor 2SC634
 Q116, 216 transistor 2SC634
 Q117, 217 transistor 2SC895
 Q118, 218 transistor 2SC895
 Q119, 219 transistor 2SC634

 Q301, 302 transistor 2SC634

 D101, 201 diode 1T22

 D301 diode CD-2
 D302, 303 diode 10D-2
 D304, 305 diode 10D-2

COILS & TRANSFORMERS

L101, 201 1-231-069 coil, equalizer 1.45 mH/1.8 mH

 L301, 302 1-409-141 coil, trap 1.8 mH
 L303, 304 1-407-284 coil, dummy 1 mH
 L305, 306 1-408-198 inductor, micro 2.2 mH

Ref. No. Part No. Description

T101, 201 1-427-217-12 transformer, output

 T301 1-441-450-16 transformr, power (E)
 1-441-460-14 transformer, power (Canada)

 T301 1-442-025-11 transformer, power (USA)
 1-441-555-12 transformer, power (AEP, UK)

 T302 1-433-133-11 transformer, bias osc

 T401 1-441-370-11 transformer, motor (AEP, UK)

CAPACITORS

All capacitors are in μF unless otherwise indicated.
 pF: μF , elect: electrolytic

C101, 201 1-105-681-12 0.047 50V mylar
 C102, 202 1-127-020 0.2 10V elect
 C103, 203 1-127-022 0.5 10V elect
 C104, 204 1-121-347 10 16V elect
 C105, 205 1-105-821-12 0.001 50V mylar
 C106, 206 1-121-347 10 16V elect
 C107, 207 1-121-291 100 6.3V elect
 C108, 208 1-121-287 47 3.15V elect
 C109, 209 1-121-347 10 15V elect
 C110, 210 1-121-289 47 25V elect
 C111, 211 1-121-347 1 50V elect
 C112, 212 1-121-284 33 6.3V elect
 C113, 213 1-105-687-12 0.15 50V mylar
 C114, 214 1-105-683-12 0.068 50V mylar
 C115, 215 1-105-678-12 0.027 50V mylar
 C116, 216 1-121-287 47 3.15V elect
 C117, 217 1-127-020 0.2 10V elect
 C118, 218 1-107-034 68p 500V silvered mica
 C119, 219 1-121-463 4.7 16V elect
 C120, 220 1-105-673-12 0.01 50V mylar
 C121, 221 1-105-674-12 0.012 50V mylar
 C122, 222 1-107-004 100p 500V silvered mica
 C123, 223 1-107-004 100p 500V silvered mica
 C124, 224 1-107-004 100p 500V silvered mica
 C125, 225 1-107-004 100p 500V silvered mica
 C126, 226 1-107-055 39p 500V silvered mica
 C127, 227 1-105-845-12 0.1 50V mylar
 C128, 228 1-105-827-12 0.033 50V mylar

 C152, 252 1-121-347 10 16V elect
 C153, 253 1-121-347 10 16V elect
 C154, 254 1-121-295 220 6.3V elect
 C155, 255 1-121-295 220 6.3V elect
 C156, 256 1-121-347 10 16V elect
 C157, 257 1-121-347 10 16V elect

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C158, 258	1-105-682-12	0.056	50V	mylar
C159, 259	1-105-667-12	0.0033	50V	mylar
C160, 260	1-121-293	100	25V	elect
C161, 261	1-131-134	1	25V	tantalum elect
C162, 262	1-121-343	1	50V	elect
C163, 263	1-105-667-12	0.0033	50V	mylar
C164, 264	1-105-661-12	0.001	50V	mylar
C165, 265	1-105-661-12	0.001	50V	mylar
C166, 266	1-107-140	270p	50V	silvered mica
C167, 267	1-121-284	33	6.3V	elect
C168, 268	1-121-468	10	6.3V	elect
C169, 269	1-121-287	47	3.15V	elect
C170, 270	1-121-281	4.7	25V	elect
C171, 271	1-121-343	1	50V	elect
C172, 272	1-121-343	1	50V	elect
C173, 273	1-121-283	10	25V	elect
C301, 401	1-105-825-12	0.0022	50V	mylar
C302, 402	1-105-835-12	0.015	50V	mylar
C303, 403	1-105-837	0.022	50V	mylar
C304, 404	1-105-845-12	0.1	50V	mylar
C305, 405	1-107-004	100p	500V	silvered mica
C306, 406	1-127-202	0.2	15V	elect
C307, 407	1-121-343	1	50V	elect
C308, 408	1-121-356	100	16V	elect
C309	-----			
C310, 410	1-121-343	1	50V	elect
C311, 411	1-121-343	1	50V	elect
C312, 412	1-121-356	100	16V	elect
C313, 413	1-105-821-12	0.0056	50V	mylar
C314, 414	1-105-821-12	0.0056	50V	mylar
C315, 415	1-107-005	220p	500V	silvered mica
C316, 416	1-121-361	500	35V	elect
C317, 417	1-127-202	0.2	15V	elect
C318, 418	1-107-051	15p	500V	silvered mica
C501, 502 C503	1-121-361	500	35V	elect
C601, 602	1-129-663	560p	50V	polyethylene
C603, 604	1-141-076	30~200p	500V	trimmer
C605	1-129-318	560p	500V	polyethylene
C606, 607	1-129-684	680p	50V	polyethylene
C608	1-105-823-12	0.0015	50V	mylar
C609	1-121-385	220	50V	elect
C651, 652	1-129-320	680p	500V	polyethylene
C653	1-105-839-12	0.033	50V	mylar
C654	1-117-036-22	1.5+0.5	metalized paper (E, AEP, UK)	
C654	1-117-034-23	1.5	metalized paper (USA, Canada)	
C655	1-121-524	2,200	50V	elect

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
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RESISTORS

All resistors are in Ω , $\frac{1}{4}W$ and carbon type unless otherwise indicated. k: 1,000, N: low noise

R101, 201	1-242-669	680
R102, 202	1-242-673	1 k
R103, 203	1-242-699	12 k
R104, 204	1-242-721-11	100 k
R105, 205	1-242-739	560 k
R106, 206	1-242-695	8.2 k
R107, 207	1-242-681	2.2 k
R108, 208	1-242-669	680
R109, 209	1-242-709	33 k
R110, 210	1-242-713-09	47 k (N)
R111, 211	1-242-697-09	10 k (N)
R112, 212	1-242-713-09	47 k (N)
R113, 213	1-242-713-09	47 k (N)
R114, 214	1-242-667	560
R115, 215	1-242-685-09	3.3 k (N)
R116, 216	1-242-713-11	47 k (N)
R117, 217	1-242-717-09	68 k (N)
R118, 218	1-242-705	22 k
R119, 219	1-242-683	2.7 k
R120, 220	1-242-681	2.2 k
R121, 221	1-221-748	5 k (B) adjustable
R122, 222	1-242-681	2.2 k
R123, 223	1-242-739	560 k
R124, 224	1-242-713-11	47 k (N)
R125, 225	1-242-685-11	3.3 k
R126, 226	1-242-721-11	100 k
R127, 227	1-242-665	470
R128, 228	1-242-705	22 k
R129, 229	1-242-715	56 k
R130, 230	1-242-677	1.5 k
R131, 231	1-242-665	470
R132, 232	1-242-681	2.2 k
R133, 233	1-242-695	8.2 k
R134, 234	1-244-689	4.7 k
R135, 235	1-222-209-14	200 k (C) variable
R136, 236	1-222-202-11	50 k (A) variable w/switch
R137, 237	1-242-641	47
R138, 238	1-242-677	1.5 k
R151, 251	1-242-673	1 k
R152, 252	1-242-739-09	560 k (N)
R153, 253	1-242-717-09	68 k (N)
R154, 254	1-242-721-09	100 k (N)
R155, 255	1-242-649	100
R156, 256	1-242-685-09	3.3 k (N)
R157, 257	1-242-717	68 k (N)
R158, 258	1-242-721-09	100 k (N)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R159, 259	1-242-703	18 k
R160, 260	1-242-683	2.7 k
R161, 261	1-242-727	180 k
R162, 262	1-221-663-21	2 k (B) adjustable
R163, 263	1-221-320-21	3 k (B) adjustable
R164, 264	1-242-679	1.8 k
R165, 265	1-242-705	22 k
R166, 266	1-221-630-21	20 k (B) adjustable
R167, 267	1-242-735-09	390 k (N)
R168, 268	1-242-739-09	470 k (N)
R169, 269	1-242-713-09	47 k (N)
R170, 270	1-242-699	12 k
R171, 271	1-242-699	12 k
R172, 272	1-242-737-11	470 k
R173, 273	1-242-737-11	470 k
R174, 274	1-242-713-09	47 k (N)
R175, 275	1-242-731-09	270 k
R176, 276	1-242-727	180 k
R177, 277	1-242-695	8.2 k
R178, 278	1-242-665	470
R179, 279	1-242-711	39 k
R180, 280	1-242-679	1.8 k
R181, 281	1-242-679	1.8 k
R182, 282	1-242-669	680
R183, 283	1-242-705	22 k
R184, 284	1-242-703	18 k
R185, 285	1-221-311	5 k (B) adjustable
R186, 286	1-242-737-11	470 k
R187, 287	1-242-681	2.2 k
R188, 288	1-242-685-11	3.3 k
R301, 401	1-242-677	1.5 k
R302, 402	1-221-916-11	50 k (A) variable
R303, 403	1-242-695	8.2 k
R304, 404	1-221-916-11	50 k (A) variable
R305, 405	1-242-683	2.7 k
R306, 406	1-242-693	6.8 k
R307, 407	1-242-697	10 k
R308, 408	1-221-916-11	50 k (A) variable
R309, 409	1-242-699	12 k
R310, 410	1-242-719	82 k
R311, 411	1-242-723	120 k
R312, 412	1-242-693	6.8 k
R313, 413	1-242-709	33 k
R314, 414	1-242-709	33 k
R315, 415	1-242-641	47
R316, 416	1-242-683	2.7 k
R317, 417	1-242-683	2.7 k
R318, 418	1-242-669	680
R319, 419	1-242-720	91 k
R320, 420	1-242-689	4.7 k
R321, 421	1-242-625	10

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R322, 422	1-242-625	10
R323, 423	1-242-601	1
R324, 424	1-242-601	1
R325, 425	1-242-659	270
R326, 426	1-242-659	270
R327, 427	1-242-713	47 k
R328, 428	1-242-720	91 k
R329, 429	1-242-689	4.7 k
R330, 430	1-242-625	10
R331, 431	1-242-625	10
R332, 432	1-242-601	1
R333, 433	1-242-601	1
R334, 434	1-242-703	18 k
R335, 435	1-242-701	15 k
R336, 436	1-242-649	100
R337, 437	1-242-649	100
R338, 438	1-242-663	390
R339, 439	1-242-673	1 k
R340, 440	1-242-711	39 k
R341, 441	1-242-673	1 k
R342	1-222-208-11	100 k variable
R501	1-242-641	47
R502	1-242-649	100
R503	1-242-651	120
R601	1-242-635	27 k
R602	1-242-625	10
R603, 604	1-242-725	150 k
R605, 606	1-242-625	10
R651	1-222-119	200 k (A) variable w/switch
R652	1-244-709	33 k

SWITCHES

S101, 201	1-513-231	slide, record/playback
S102, 202	1-514-519	rotary, INPUT SELECTOR
S103, 203	1-514-416	rotary, TAPE SPEED & equalizer
S104, 204		included in resistor (R136, R236)
S105, 205	1-514-513	rotary, MONITOR
S106, 206	1-514-518	leaf, muting
S107, 207	1-514-515	rotary, NOISE SUPPRESS
S108, 208	1-514-520	slide, SP SELECTOR
S109, 209	1-514-515	rotary, MODE selector
S110, 210		included in jack (J302)
S301	1-514-416	rotary, equalizer
S302		included in variable resistor (R651)
S303	1-514-449	rotary, SOS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
S304	1-514-057	micro, bias shut-off
S305, 306	1-516-037	lever, POWER (USA)
S305, 306	1-514-325	lever, POWER (Canada, E)
S305	1-514-852	lever, POWER (AEP, UK)
S306	1-514-325	lever, POWER AMP (AEP, UK)
S307	1-514-039	micro, auto-shut-off
S308	1-514-512	rotary, frequency selector (E, AEP, UK)

JACKS

J101, 201	1-507-142	2P phono, PHONO
J102, 202	1-507-142	2P phono, TUNER
J103, 203	1-507-142	2P phono, AUX
J104, 204	1-507-266	phone, MIC
J105, 205	1-507-142	2P phono, LINE
J106, 206	1-507-142	2P phono, EXT SP
J107, 207	1-507-107	phone, LID SP
J301	1-507-187	binaural, HEADPHONE MONITOR
J302	1-507-190	binaural, w/switch; HEADPHONE LISTEN
CNJ301, CNJ302	1-509-015-01	connector (E, USA, Canada)
CNJ303	1-509-029	connector, REC/PB (E, AEP, UK)
CNP301	1-509-062	connector (E, USA, Canada)

MISCELLANEOUS

REC.	8-821-229-01	head, playback; PP30-2902A
H101, 201	8-829-129-20	head, playback; PP102-2902 (Serial No. 124,761)

PB.	8-824-129-20	head, record; RP30-2902
H101, 201	8-824-629-20	head, reocrd; RP102-2902 (Serial No. 124,701~)
EH101, 201	8-826-629-24	head, erase; EF18-2902A
M	8-832-624-09	motor IC-624H1
SP101, 201	1-502-211	speaker
VS	1-509-064	voltage selector (E, AEP)
PL101, 201, PL301, 302	1-518-093	lamp
	1-534-153-13	cord, power; w/plug (AEP)
	1-534-819-00	cord, power; w/plug (UK)
PL303, 304		included in VU meter (ME101, 201)
ME101, 201	1-524-056-13S	meter, VU w/lamp
CP301	1-101-534	encapsulated component 0.1 μ F + 120 Ω
CP302	1-134-11 1-231-057	encapsulated component 0.033 μ F + 120 Ω
	1-533-048	holder, fuse (E, USA, Canada)
F1	1-532-204	fuse 2A (AEP, UK)
F	1-532-100-11	fuse 2A (E)
F1	1-532-268-11	fuse 2A (Canada)
F1	1-532-338-11	fuse 2A (USA)
F2,5,6	1-532-078-11	fuse 1AT (AEP, UK)
F3,4	1-532-074-11	fuse 160mAT (AEP, UK)
	1-533-026-11	holder, fuse; 3P (AEP, UK)
	1-536-376	terminal strip, 1-L-1
	1-536-145	terminal strip, L-1
	1-536-179	terminal strip, 1-L-1
	1-506-024	cord w/plug


















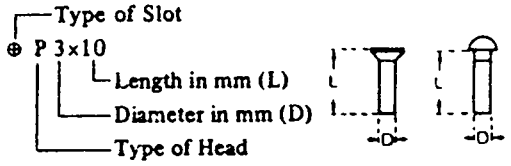
SECTION 8 HARDWARE

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
SCREWS			
7-621-255-25	RF 2 x 4 (E, AEP, UK)	7-682-549-01	B 3 x 10
7-621-255-35	RF 2 x 5 (E, AEP, UK)	7-682-549-13	B 3 x 10
7-621-255-45	RF 2 x 6 (E, AEP, UK)	7-682-550-13	B 3 x 12
7-621-255-55	RF 2 x 8 (E, AEP, UK)	7-682-581-14	B 5 x 30
7-621-259-12	RF 2.6 x 3 (E, AEP, UK)	7-683-237-01	3 x 3, self-tapping
7-621-259-15	RF 2.6 x 3 (E, AEP, UK)	WASHERS	
7-621-259-22	RF 2.6 x 4 (E, AEP, UK)	7-623-107-02	2.6 (small)
7-621-259-32	RF 2.6 x 5 (E, AEP, UK)	7-623-107-12	2.6
7-621-259-35	RF 2.6 x 5 (E, AEP, UK)	7-623-108-02	3 (small)
7-621-259-45	RF 2.6 x 6 (E, AEP, UK)	7-623-108-12	3
7-621-510-32	(-)K 2.6 x 22 (E, AEP, UK)	7-623-108-18	3
7-621-559-42	K 2.6 x 22 (E, AEP, UK)	7-623-108-22	3 (large)
7-621-659-47	RK 2.6 x 6 (E, AEP, UK)	7-623-110-02	4 (small)
7-621-712-56	(-)SC 2.6 x 6 (E, AEP, UK)	7-623-112-12	5 (t=0.8)
7-621-712-66	(-)SC 2.6 x 8 (E, AEP, UK)	7-623-112-16	5 (t=0.4)
7-621-844-29	R 3.1 x 8, wood (E, AEP, UK)	7-623-205-22	2 spring
7-621-852-17	K 2.7 x 8, wood (E, AEP, UK)	7-623-207-22	2.6 spring
7-621-852-38	K 2.6 x 10, wood (E, AEP, UK)	7-623-208-22	3 spring
7-682-145-01	P 3 x 4	7-623-210-22	4 spring
7-682-146-01	P 3 x 5	7-623-308-05	3 internal tooth
7-682-147-01	P 3 x 6	7-623-408-05	3 external tooth
7-682-148-01	P 3 x 8	MISCELLANEOUS	
7-682-149-01	P 3 x 10	7-622-307-07	nut 2.6
7-682-150-01	P 3 x 12	7-684-013-01	nut 3
7-682-151-01	P 3 x 14	7-684-014-01	nut 4
7-682-152-01	P 3 x 16	7-622-308-02	lug 3
7-682-154-13	P 3 x 25 (AEP, UK)	7-623-508-01	lug 3
7-682-169-01	P 4 x 6	7-623-510-01	lug 4
7-682-161-01	P 4 x 8	7-624-106-01	retaining ring E 3
7-682-165-14	P 4 x 6	7-624-108-01	retaining ring E 4
7-682-247-14	K 3 x 6	7-624-109-01	retaining ring E 5
7-682-248-01	K 3 x 8	7-629-100-86	nail 1 x 6
7-682-348-14	RK 3 x 8		
7-682-547-13	B 3 x 6		
7-682-547-14	B 3 x 6		
7-682-548-13	B 3 x 8 (E, UK)		

Note: 1. All screws are Phillips type (cross recess type) unless otherwise indicated.

(-): slotted head

— Hardware Nomenclature —

P - Pan Head Screw			SC - Set Screw		
PS - Pan Head Screw with Spring Washer			E - Retaining Ring (E Washer)		
K - Flat Countersunk Head Screw			W - Washer		
B - Binding Head Screw			SW - Spring Washer		
RK - Oval Countersunk Head Screw			LW - Lock Washer		
T - Truss Head Screw			N - Nut		
R - Round Head Screw			— Example — 		
F - Flat Fillister Head Screw	